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Editorial Notes

A Test Case

It has been announced in the Public Press that a test case as to the liability of local authorities to income tax is to be fought in the Courts. The case is one which will obviously be of considerable interest to local authority gas departments.

It has been claimed that local authorities are liable to income tax in respect of the profits of each of their trading departments, and that there cannot be a set off of a loss upon one department against a profit on another department. To evade this difficulty it has been a common practice for local authorities to incorporate provisions in their Private Acts authorizing the payment of all receipts into, and the discharge of all liabilities out of, one common fund.

Where such a fund has been authorized the practice has been for the local authority only to pay income tax upon any balance which may be standing to the credit of the fund at the end of the financial year.

The test case will decide an issue upon which a vast sum of money depends; it will no doubt be fought to the House of Lords and exercise the skill and ingenuity of a large number of learned legal gentlemen. It also raises an issue upon which the usual unanimity which exists between gas departments and gas companies may, for once, not be possible. A local authority gas department will, no doubt, desire the defeat of the Inland Revenue. A gas company in competition with local authority electricity departments may be forgiven for holding the opinion that the electricity department should share with itself the honour of paying tax upon the profits arising from its trade without taking into consideration extraneous losses.

Calorific Value

In his Paper at last year's Institution meeting Mr. E. G. Stewart remarked that at that time 844 gas undertakings had selected 28 different calorific values, ranging from 200 to 600 B.Th.U. per cu.ft., yet over 90% of the gas sold in this country was of a calorific value between 450 and 500 B.Th.U.; and he suggested that it would not seem out of place to expect that in the near future unlimited choice in calorific value would give place to a few standardized values throughout the country. And we may recall that at that meeting Mr. E. V. Evans maintained that it is not enough for a gas undertaking to regulate from time to time the degree of steaming a charge, or the percentage of water gas added, or the amount of oil used, by consideration only of the cost of manufacture. Many of our first-class brains, he said, had been devoted to producing gas cheaply, and there was a race between undertakings to produce a therm of gas of a certain calorific value at a fraction less than another undertaking. The advantage of that fraction less might be much more than counterbalanced by the trouble involved in the manufacture and subsequent control of gas appliances. There is no doubt that the Gas Industry's activities will have to be regarded from the service angle—the satisfaction of the consumer with a trouble-free heat service. As things stand at present the manufacturers are forced to provide gas and air adjustments to cover wide ranges in calorific value, and such adjustments are capable of causing unsatisfactory appliance performance.

The aim of the Gas Industry must be to give a supply of gas which does not vary in quality. This quality, of course, cannot be measured in terms of so many British Thermal Units per cubic foot. Specific gravity and flame characteristics must be taken into account, as also must the maintenance of constant pressure at the appliance. At the same time, in our opinion the wide variation in calorific value of the gas supplied is irrational; it should give place to more uniformity. At the meeting of the Institution last June Sir Frederick West, commenting on the many variables which have to be taken into consideration in the choice of carbonizing plant, queried whether too much licence had been given in the matter of calorific value by the Gas Regulation Act of 1920, and he he expressed the view that an economic enquiry might well be instituted into the question. We cannot, of course, afford to whittle away the great advantage which the Gas Industry enjoys in the flexibility of its process. Substantial increase in the cost of manufacture to ensure a better service would defeat the object of making that service generally available. To our mind, however, the reduced costs of maintenance of appliances, and so on, due to the supply of gas of uniform quality would more than outweigh the possible slight increase in the cost to produce such a gas. The other advantages of uniform—of course, the right—quality cannot be assessed in terms of pounds, shillings, and pence.

We return to this subject of calorific value and gas quality in view of the Paper which Mr. John Keillor, of Vancouver, gave at the recent International Engineering Conference in Glasgow. An extract from the Paper is published in our

issue to-day. The Author explained that in Canada there is a uniform or minimum standard calorific value of 450 B.Th.U. governing the quality of manufactured gas sold throughout the Dominion, and he stated that "the opinion is gaining favour that it would be well for the Industry and the gas consuming public if the uniform standard was abandoned . . . and if the British system of requiring each gas company to declare the quality of gas it is best equipped to make and sell from available raw materials was adopted, the gas to be sold on the basis of the therm or other heat unit." He would like to see gas undertakings free "to make the kind or composition of gas that will enable them in most districts to give consumers a better product than they get now—at the burner point a high flame temperature gas at a lower price." We will not gainsay that some measure of flexibility may be desirable, but we would ask Mr. Keillor to bear in mind the trend of thought in Great Britain, which is towards greater uniformity, and to look at the matter also from the point of view of the manufacturer of gas-making plant and of the manufacturer of gas-using equipment, both of whom have additional problems to face where wide variations in gas quality are the order of the day.

Activities of the C.U.C.

AFTER being in existence for five years the Coal Utilization Council has issued its first formal report covering the year ended March 31 last, which surveys the work done and to be done. The growth of this organization will be realized if we mention that in addition to headquarters in London it now maintains branch offices in Glasgow, Dublin, Leeds, Manchester, Birmingham, Bristol, and Leicester, and showrooms in London and Manchester; subscribers to its funds now number 13,300. Eight area combustion engineers cover the whole of Great Britain and Ireland; at the head office there are a chief engineer, an assistant chief engineer, a heating engineer, and an exhibitions engineer. The C.U.C., in brief, is getting down to business, which is to promote the use of coal in home and industry. The report maintains that only a comparatively slow and small increase in the consumption of coal is to be expected from a further extension of the Gas Industry, while, on the other hand, any further increase in the domestic use of gas "may cut into the market for household coal unless coal is able to take advantage of the tendency towards a higher degree of heat comfort in the home."

We would assure the C.U.C. that further increase in the domestic use of gas and coke will quite definitely cut into the market for domestic coal, and that that increase will be progressively great. The public is being educated towards a higher degree of heat comfort in the home, but a degree of comfort not associated with the use of raw coal. The modern tendency is towards labour-saving and convenience, and complementary to this is the growing realization that the Gas Industry can provide a practical and economic remedy for the smoke evil. Already in several areas the all-gas house is a proved economic proposition. Newcastle provides an example, and reference to the progress made by the Newcastle-upon-Tyne and Gateshead Gas Company in this direction is made elsewhere in this issue of the "JOURNAL." And where the price at which gas can be offered at the moment precludes its use for all heat requirements in the homes of the working class, then a smokeless heat service by gas in combination with coke has been proved to be the solution. The report of the C.U.C. states that last year coal burning appliances were sold to the tune of between £8,000,000 and £10,000,000, and gives these figures as indication of "a very live market full of great possibilities." We regard the figures as showing a market full of great possibilities for the Gas Industry, and as showing how much remains to be accomplished by the Industry in a country where the consumption of raw coal per head of population is the highest in the world.

Training for Business

WE have followed with much interest the progress of the Department of Business Administration which was established at the London School of Economics in the University of London eight years ago. In 1930 a number of business firms pledged their financial support for a five-year experiment in training university men and women for business careers. The object of the scheme was to overcome some of the difficulties hampering the training of future executives in business principles and methods, and as a bridge between business and the universities it has been deservedly welcomed by a number of industries. On the one hand, candidates under the scheme must be university graduates who have just taken their degrees, and their qualifications must be high. On the other hand, the scheme has proved to offer the right man a valuable opportunity. From the start business men have played an active part in the work of the Department, taking a share in the responsibilities of management, advising in the method of training and investigation and in the appointment of staff and the selection of students.

Such was the success of the five-year plan that in 1935 the Governors of the London School of Economics decided to make the Department an integral part of the School, and in this decision they were supported by the business men associated with the management of the venture, which proved that specialized training, based to a large extent on the problems and practice of business and on material gathered from current business operation, could successfully be carried out in a university institution at a post-graduate level. Several firms have favoured the Department's scheme as a means of recruiting graduates. By the scheme a firm selects a graduate for appointment and requires him first of all to complete the one-year course. Other graduates who pass a Selection Committee and are admitted to the one-year course find little difficulty in securing appointments during the session.

In September last an appeal was made for an endowment fund of £100,000. This appeal has not yet achieved its full objects. It had been hoped to raise a sum the income from which would make the finances of the Department permanently secure and would allow of the carrying out of further developments. However, we learn that the amounts so far subscribed are sufficient to ensure the maintenance of the Department on its existing scale for a further period of seven years, so that the same facilities as hitherto can be offered; and a recent development for London evening students is a change in the regulations governing application for London County Council Senior Scholarships. Applicants must have been employed in business and have attended evening classes for at least two years at the London School of Economics or at a polytechnic or a technical institution. The Scholarships cover fees *plus* a maintenance allowance which, for self-supporting students, may be as much as £160 a year; and for the 1938-39 course there are available a Leverhulme Post-graduate Scholarship, value £120 per annum, and also a limited number of bursaries equivalent to remission of fees.

In 1937-38, one of the large-scale special investigations supervised by the staff of the Department has been carried out in collaboration with the Gas Light and Coke Company and the London Press Exchange into the lighting, heating, and cooking arrangements in London homes.

"Field's Analysis"

On a later page of this issue will be found an article dealing with the latest publication of "Field's Analysis," which covers the accounts for the year 1937.

This is the 69th annual issue of this valuable work, and Messrs. S. H. Collins and P. F. Scarth, Joint Accountants of the Gas Light and Coke Company and compilers of the Analysis, are to be complimented upon once again completing what must undoubtedly be considered the standard work of its kind of the Industry. In thus complimenting them it must not be forgotten that they are supported in their arduous task by a very capable set of assistants, to whom must also be accorded a meed of praise.

All-Gas Houses at Newcastle

The Newcastle-upon-Tyne and Gateshead Gas Company is making good progress in its plan to encourage consumers to employ gas for all their fuel requirements, eliminating the labour and dirt associated with the use of raw coal and assisting in the cause of smoke abatement. In our news columns last week we recorded that the number of Newcastle householders who have entirely eliminated the use of coal has increased twofold during the past six months—the reward of a virile sales policy and the adoption of promotional tariffs for gas. The consumers in the all-gas houses are well satisfied with the change-over. It will be recalled that in his Paper last April to the North British Association of Gas Managers Mr. T. P. Ridley, General Manager to the Company, explained that on a recent survey 80% of the all-gas consumers stated that the cost was no more than their previous cost for gas and solid fuel, while all those who had found the cost to be somewhat more than they had expected expressed the opinion that the increase had been compensated for by other advantages. The Newcastle Company is alive to the fact that the growing public demand is towards the use of a labour-saving, smokeless fuel and away from the use of raw coal—and this in a coal producing area—and the Company is to be congratulated on taking all possible steps to ensure that this demand shall be adequately satisfied.

Street Lighting Progress

The notes on recent gas street lighting improvements reported on a later page this week make heartening reading. That any impression that gas is not holding its own in public lighting is very far from truth is evidenced from the random selection of notes we have included to-day and for which we are indebted to *Public Lighting*, the official organ of the Association of Public Lighting Engineers. From all parts of the Kingdom, from country village to important towns and main roads, we here have proof that so far from losing ground, gas street lighting is forging steadily ahead. New contracts for varying periods are being signed; wholesale improvements to existing installations are being made, and through the good services of individual gas undertakings local authorities are becoming increasingly aware of the advantages of gas as an efficient and economical form of illumination which, backed by the service which is the password of the Industry, never lets them down. Of particular note may be mentioned the new installation on two of the principal approach roads to Ramsgate and on the main Barton Road, Davyhulme, while the erection of demonstration lamps in Galston has resulted in a new gas system being adopted with several additions to the original scheme. Street lighting is a practical means of keeping gas before the public eye, and, in congratulating all the undertakings concerned on their achievements, we look forward to hearing of further instances of progress in this direction.

Gas for Cremation

The cremation movement is gaining strength, and with it the use of gas, which is the logical fuel for the purpose. Æsthetically, it is the right fuel; it is clean, silent, efficient. It is available instantly and the furnaces in which it is burned require no skilled attention. Finally, it is most economical and thoroughly dependable. It is unnecessary for us to stress the importance of the last-named feature. In 1935 Mr. G. le B. Diamond, Engineer and General Manager to the Folkestone Gas and Coke Company, and Mr. T. V. Garrud, of the Gas Light and Coke Company, gave a comprehensive Paper on the technique of cremation; it was published in the "Journal" for July 10, 1935. In last week's "Journal" the same Authors again reviewed the whole subject anew in the light of developments which have been made in the intervening period, and their account was one of which the Gas Industry and the manufacturers of furnaces may feel proud. There are now forty-one crematoria in the British Isles, and gas is employed in thirty-three of them. Abroad also there is an ever-increasing use made of gaseous heat, and many of the old-established crematoria are being converted from solid fuel firing to gas heating. In regard to furnace design recent attention has been paid to improvements in operation—the application of heat and the provision of recuperation for heating the air required for oxidation—and in appearance of the furnaces. Messrs. Diamond and Garrud have again done good service in presenting so clearly the facts about gas in its application to cremation.

Forthcoming Engagements

[*No meeting of the Central Executive Board of the National Gas Council or of the Central Committee of the Federation of Gas Employers will be held during August.*]

September.

5 to 8.—A.P.L.E.—Annual Conference at Bournemouth.
8.—North British Association.—Annual Meeting at Largs.
12.—L.C.C.A.—Technical Committee, 11.30 a.m.
15.—S.B.G.I.—Council, 2.30 p.m.
15.—Wales and Mon. Association.—General Meeting at Porthcawl.
23.—I.G.E.—Joint Lighting Committee, 2.30 p.m.
26.—L.C.C.A.—Finance Committee, 10.45 a.m.; Executive Committee, 11.15 a.m.; Central Committee, 2.30 p.m.

October

1-4.—B.C.G.A.—Annual General Meeting and Conference at Brighton (for Programme see p. 34 of "Journal" for July 6).
7.—I.G.E.—Joint Committee on Complete Gasification under Pressure, Offices of the Department of Scientific and Industrial Research, 16, Old Queen Street, S.W. 1, 3 p.m.
13.—Midland Association.—Autumn General Meeting, Grand Hotel, Birmingham.

Gas in the U.S.A.

Mr. Louis Stotz, who has had experience as Assistant Secretary-Manager of the American Gas Association, and Mr. Alexander Jamison, a lawyer of considerable experience in public utility cases, have produced an account of the growth of the Gas Industry in the U.S.A. and the conditions under which it operates, which, while it has a very strong American flavour, may be of some interest to British readers.

Ten chapters are devoted to an account of the early days of the Industry, particularly in New York and the greater cities, the next thirteen to very brief descriptions of the applications of gas, domestic and industrial, one to an account of the central testing laboratory and its mark of approval, and one to tariffs. The extremely complicated system of regulation of public utilities in the United States is dealt with at some length, and, of course, there is a pretty long section on natural gas and the long pipe lines by which supplies are taken, in some cases hundreds of miles from oil fields, to the cities, particularly, of the South and the Middle West.

The style is light and readable, and if the book is a little long it will repay reading, especially if one is contemplating a visit of inspection to the U.S.A. It is published by Stettiner Bros., New York.

Personal

Brighton Appointments

It is with regret that we learn of the resignation from the Board of the Brighton, Hove, and Worthing Gas Company of Mr. ERNEST LIONEL BURTON, on the ground of failing health. Prior to his election to the Board of Directors some twelve years ago, Mr. Burton was for many years Secretary to the Company, in which office he had intimate knowledge of, and contact with, many of the Brighton employees.

Mr. HYDE CLARKE BURTON, Secretary of the Company for the past twelve years, has been elected to a seat on the Board of Directors rendered vacant by the retirement of his father, Mr. E. L. Burton.

The Directors appointed Mr. G. MURRAY BURTON as the new Secretary of the Company as from August 1. Mr. Murray Burton also occupies the positions of Secretary and General Manager of the Malta and Mediterranean Gas Company, and Secretary of the East Cowes Gas Company.

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Mr. HYDE CLARKE BURTON has also been elected a Director of the Hornsey Gas Company, and of the Lea Bridge Gas Company, on the resignation of Mr. E. L. Burton from both these positions.

* * *

On July 29, Mr. E. E. LITTLE completed fifty years' service with Bell's Asbestos and Engineering Supplies, Ltd., the occasion being marked by a luncheon and presentations from the firm. Mr. Little joined the original firm of John Bell & Son as office boy on July 30, 1888, and he now holds the position of Manager of the Overseas Department at the Company's headquarters at Slough.

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Mr. WILFRED M. GLEDHILL, Assistant Engineer and Manager, Stirling Gas Light Company, for the past five and a half years, has been appointed Technical Assistant to the Worcester New Gas Light Company. Mr. C. B. S. MITCHELL, of West's Gas Improvement Company, has been appointed as successor to Mr. Gledhill.

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On leaving the Motherwell and Wishaw Gas Undertaking, of which he has been Engineer and Manager for the past seven years, to take over an appointment in Yorkshire with the United Kingdom Gas Corporation, Mr. ALEXANDER MCDONALD has been presented by the staff and employees with a bookcase, the gift being handed over by Mr. William Kirk, his successor.

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Mr. P. SUMNER, Assistant Engineer to the Altrincham Gas Company, has been appointed Technical Assistant to the County Borough of St. Helens Gas Department, taking up his duties on Aug. 8.

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Mr. R. J. BRADSHAW, Assistant Gas Engineer and Manager at Rochdale, takes up a similar position under the Bath Gas Company on Sept. 1. Mr. Bradshaw is a Lancashire man and received his training with the Blackpool Gas Department. Prior to taking up his position at Rochdale he held a similar post with the Macclesfield Gas Department.

Obituary

We regret to have to record the death on July 30 of Mr. LIONAL EDWARD TWYCROSS, Engineer and Works Manager of the Cheltenham and District Gas Company. The death of Mr. Twycross in his 61st year removes one who has quietly taken an important part in the business life of the town and who was greatly esteemed by his men and all who knew him. He had been ill at his home since early in April, but until a month ago continued to direct the affairs of his department by means of telephone from his bedroom.

Second son of the late Mr. Edward Twycross, auctioneer, of Upton-on-Severn, Mr. Twycross was educated at Hanley Castle Grammar School, and became an articled pupil to Mr. R. O. Paterson at the Cheltenham Gas Light and Coke Company, later becoming Assistant Manager. Throughout the war he served in France with the Royal Engineers. Returning, he resumed his position as Assistant Manager, and in 1924 was appointed Engineer and Works Manager on the retirement of Mr. James Paterson.

It was under the direction of Mr. Twycross that the Cheltenham Gas Company's scheme of development was carried out, extending to outside areas, including Cleeve, Tewkesbury, Broadway, and Chipping Campden, until now an area of 300 square miles is covered.

While he did not have much time to devote to outside social activities, Mr. Twycross gained affection by the deep and sincere interest he took in the welfare of the employees individually and collectively. He was Chairman of the Works' Sports Club.

Apart from his appointment at Cheltenham, Mr. Twycross was Managing Director of the Upton-on-Severn Gas Company, the reorganization of which he undertook shortly after the war, and Joint Managing Director with Mr. A. L. Morris, his colleague at Cheltenham, of the Campden Gas, Coal, Coke, and Lighting Company.

Letter to the Editor

Safety in Industry

DEAR SIR,—With reference to the suggestion made by Lord McGowan that the Government could help to reduce road accidents by advertising "Safety First," I trust that, if a safety publicity campaign be initiated, it will not be confined to road safety only, but will include safety in industry.

There is no doubt that the general public fails to realize the high toll of accidents in industry to-day. Although the proportion of fatal accidents is greater on the road, the number of non-fatal is, according to the latest official returns, almost as great in industry. During 12 months 192,725 people were killed or injured on the roads and 175,470 were killed or injured in factories and workshops. The latter figure does not include accidents which occurred in mines, quarries, docks, railways, shipping, and building industries. If these are included the figure of 175,000 is increased to 400,000. Add to this again the fatal and non-fatal accidents in the home and everyday life, which are even more numerous than those occuring on the road or in industry, and if, in addition, we add the deaths and disablements due to industrial illnesses and diseases, the figure becomes appalling. It is appalling not only on account of the numbers, but because I am convinced that, if proper action were taken, a large number of the accidents in this country in industry, on the road, and in the home could be avoided. Carelessness seems to me to be the underlying cause of so many accidents that, if only the public could be told and impressed with the importance of taking care, the figures would be rapidly decreased. Propaganda then is, I believe, the cure for the greater part of this trouble.

I have recently been examining the official analysis of accidents coming within the Factories and Workshops Act in order to ascertain to whom propaganda for improving the situation should be addressed, and I noted that accidents among juvenile workers (on an analysis of 55,000 people) showed that 44% of accidents to boys were the responsibility of the young worker, and of girls as much as 51%. Over 21,000 were injured merely by falling down.

Among the Metropolitan Police nearly 40,000 days were lost on account of accidents. Of these, 2,625 days were lost due to falling in the streets, 2,866 from prisoners' assaults, and 9,992 from football mishaps. If we include other games besides football, the latter figure rises to 12,860 days out of a total of 39,939!

Surely something can be done to appeal to the sense of the worker, and bring home to him the responsibility which he must bear towards his employer and his work. I suggest the only effective way that this can be done is by Government propaganda in the Press.

This would in no way immunize the employer from his responsibility for reducing accidents, for he is compelled to safeguard his workers by law. From my personal observations of factory conditions in France, Germany, Italy, and other European countries, we are far in advance of them in this respect, but there is still a great deal that can be done to reduce what psychologists call "accident proneness."

Young children in the class-rooms are being taught road safety to-day; in the same way, workers from their earliest years could be instilled with the idea of industrial safety. If by Press advertising the public can be persuaded to telephone more, drink more milk, eat more fruit, and so on, surely a skilful campaign for industrial safety on similar lines would make workers conscious of the vital importance of due care during working hours, and thus help to safeguard lives and keep bodies whole.

There is no doubt that a strong case can be put forward for Government propaganda, on a matter which urgently affects both employers and workers, and also the country at large; and it is to be hoped that such a campaign will receive serious consideration.

Yours, &c.,
GRAHAM CUNNINGHAM,
Managing Director.

The "Triplex" Safety Glass Company, Ltd.,
1, Albemarle Street, W. 1,
July 29, 1938.

News of the Week

A Reduction in the Price of Gas for street lighting to 2s. per 1,000 cu.ft., to take effect as from April 1 last, has been recommended by the Hereford Gas Committee.

Sanction to Borrow £10,000 has been granted by the Ministry of Health to the Darlington Gas Department for gas meters, fires, and cookers, together with a further £5,000 for high-pressure gas mains.

A Huge Dart-Board, showing that "Gas Hits the Mark," was mounted on a car entered by the Canterbury Gas and Water Company in the Cricket Week Carnival on Aug. 4. The Company also entered a car on which were displayed gas cookers and other apparatus.

The British Gas Light Company have made an offer to the stockholders of the Sheringham Gas and Water Company to acquire their holdings on an exchange or cash basis. The offer is subject to acceptance before Aug. 15 by the holders of all or practically all the stocks.

A Small Outbreak of Fire occurred at the works at Cornbrook, Manchester, of Messrs. Donald Macpherson & Co., Ltd., on Aug. 4. It was confined to the storeroom for one department, and we are informed that it will in no way cause dislocation of the firm's business.

The Coke Oven Plant of Messrs. Dorman, Long, & Co., Ltd., at Newport, from which the Middlesbrough Gas Department take their supply, is to be closed down. Arrangements have been made, however, between the Company and the Department whereby adequate supplies of gas will be available for the town service.

Reference to the Proposed Absorption of the Frodsham Gas Company by the Runcorn Gas Company was made at the last meeting of the Frodsham Parish Council. It was stated that the Company might charge up to 2d. a therm more in areas outside Runcorn than in Runcorn itself. Several members protested against this, and it was decided to send a resolution to the Board of Trade stating that the Frodsham Parish Council viewed with alarm the proposed difference in price between the Runcorn and Frodsham charges, and pointing out that the Frodsham Gas Company was being absorbed by the Runcorn Gas Company with a view to economies.

Third Prize in the tradesmen's goods competition, held in connexion with the Guiseley Hospital Carnival, was won by the Yeadon and Guiseley Gas Company.

The Expenditure of £13,000 on the new carbonizing plant at Prestatyn, it was stated at a recent meeting of the Prestatyn Urban Council, had been amply justified. A substantial profit would have been made by the Gas Undertaking last year had not the price of coal been considerably increased.

For Street Lighting Purposes in Liverpool, the total number of gas mantles used during the year ended March 31 last was 78,830, as compared with 80,000 the preceding year—average of 3·4 and 3·38 per burner per annum respectively. The number of electric lamps renewed during the year was 73,533, or an average of 3·42 per lampholder.

A Proposal to Build Houses for their workers was considered recently by the Edinburgh Gas Department—see "JOURNAL" for June 29, page 1027. We now learn that the Department have decided to erect 50 all-gas houses, on a rental basis, for their employees. An attractive site has been chosen, and the new dwellings will make a practical contribution to the anti-smoke campaign.

A New 3-Million Cu.Ft. Gasholder is to be erected at Lincoln provided authority is forthcoming to borrow the necessary sum of money. The City Council decided on Aug. 2, subject to this loan being approved, to accept the tender of Messrs. Newton, Chambers, & Co., for the erection of the holder. The Committee reported that consumption had incerased to such an extent that the present storage capacity was sufficient for little more than twelve hours' supply. It was agreed to ask sanction to borrow £62,967 for the scheme.

Among the Distinguished Guests on the occasion of the visit of the King last week to his Boys' Camp at Southwold was Sir David Milne-Watson, Governor of the Gas Light and Coke Company, who, in an informal speech after luncheon, told the boys that his Company had been inspired by the success of the Southwold camp to start a similar camp of their own. In last week's issue of the "JOURNAL" we reproduced a photograph of Sir David and Lady Milne-Watson taken when they paid a visit to the Company's holiday camp at Clacton.

Cookery "Tips"

Several cookery "tips" were given at the ten demonstrations arranged by the Sunderland Gas Company, in conjunction with Radiation Ltd., in the Y.M.C.A. Hall for the week July 18 to 22.

Miss J. E. Ford, of the Radiation Research Kitchen, assisted by Miss Shackleton, showed on "New World" gas cookers how tempting dishes can be made at the minimum cost and without a great deal of effort.

Mrs. Frank Dawson, who opened the Exhibition, said that there had been so many labour-saving devices added to cookers these days that housewives need no longer stand anxiously in the kitchen waiting for pots and pans to come to the boil. Mrs. Dawson was thanked for opening the demonstrations by Mrs. Walmsley, wife of Mr. C. C. Walmsley, General Manager and Secretary of the Sunderland Gas Company, who paid tribute to the vast amount of social work done in the district by Mrs. Dawson.

A cake-baking competition, with a first prize of £2 2s. and consolation prizes of £1 1s. and 10s. 6d., proved very popular.

Balloon Race at Empire Exhibition

The balloon race, sponsored at the Empire Exhibition by the British Gas Federation in conjunction with the Glasgow Corporation Gas Department, was inaugurated on Aug. 6, when some 15,000 coloured balloons were released. Each balloon bore a label with the name and address of the owner, and prizes will be awarded to those whose balloons travel the greatest distance. The first batch was sent off by Mrs. Anthony Eden, who was touring the Exhibition in company with her husband, the former Foreign Secretary, while the second contingent was released by Councillor Thomas Wilson, J.P. (Convener of Glasgow Corporation Gas Committee). On the previous day Miss Gracie Fields sent off three large balloons with her name and address. An enormous company witnessed the release of the balloons and the ceremony was filmed by British Movietone News.

Since the opening of the Exhibition over 250,000 persons have attended the cookery demonstrations in the Gas Pavilion. Mannequin parades, for the display of kitchen clothing, have now been fixed to commence on Aug. 15. A "baby-bathing competition" has also been arranged in conjunction with Ascot Gas Water Heaters, Ltd., the firm presenting three heaters to the successful competitors.

Airdrie Modernization Scheme

The scheme for the modernization of the plant at Airdrie Corporation Gas-Works has, we learn, been held up by the delay on the part of the Scottish Office in granting sanction for the borrowing up to £35,000 for the purpose. The Gas Committee has decided, unless sanction is received soon, to report the position to the local Member of Parliament.

The scheme has already been delayed for a year pending consideration of a proposal by the Coatbridge Gas Company to supply Airdrie in bulk; the Coatbridge Company afterwards offered to purchase the Airdrie Undertaking outright. Both offers were refused.

The Gas Committee has now declined a suggestion from Messrs. William Baird & Co., Ltd., to delay their scheme for another three months to allow the question of a supply of coke oven gas to be examined. Messrs. Baird have been unable to proceed with a scheme for modernizing their Gartsherrie Works owing to inability to find a suitable outlet for the coke oven gas. Last year a Departmental Committee of the Board of Trade suggested legislative action as the only remedy for the deadlock.

Fine New Gas Showrooms for Folkestone Consumers

Imposing new showroom premises in Sandgate Road, Folkestone, were officially opened for the Folkestone Gas and Coke Company last Friday afternoon by the Mayor in the presence of a distinguished gathering, providing yet another milestone in the history of this progressive Undertaking.

Exterior View of the New Building.

One of the principal "Gateways to the Continent," Folkestone not only acts as a clearing house each year to thousands of overseas visitors, but is becoming increasingly popular as time goes on by virtue of its indisputable attractions as a thoroughly up-to-date seaside resort. In every town, but particularly in a town such as this, it is essential for the Gas Undertaking to move with the times, for it is an ambassador to visitors whose homes may be far removed from the "Garden of England," and upon its good service depends the considerable task of catering adequately for vast numbers of holiday-makers, whether they are staying in humble apartment or palatial hotel. For this reason, among others, the Directors of the Folkestone Gas and Coke Company took the opportunity provided by the expiration of the lease of their old premises in Rendezvous Street to erect a fine new showroom building which is not only a credit to the Company, but definitely enhances the amenities of this important Kentish resort.

Situated on a prominent corner site in Sandgate Road—which, as everyone who has been to Folkestone knows, is the principal shopping centre—the new premises immediately attract the eye with their clean, modern lines, considerable window area, and striking vertical strip of reeded glass which marks and illuminates the stairway from street level to the square turret which surmounts the roof.

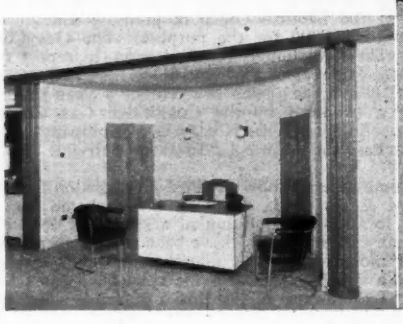
Exceptionally large showroom windows on either side of the main door enable effective individual displays to be shown just inside without seriously interrupting the clear view of the greater portion of the interior—thus combining in one the chief merits of both "open" and "closed" window. Entering by the main door, one is faced with an imposing vista down the full length of the showroom to the cashiers' counter at the far end, above which is a modernistic clock with red hands and figures.

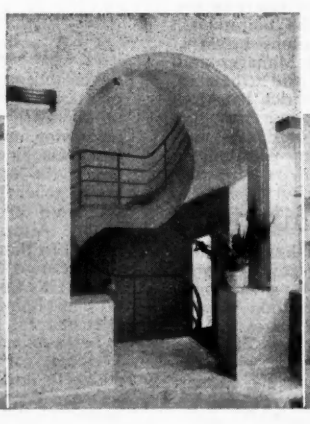
The chief impression gained from a glance at the interior of the ground-floor showroom is bright and cheerful—an attractive decoration scheme of green and primrose, with pleasing wall treatment, greets the eye, enhanced by light beechwood panelling and fluted columns—a wide variety of appliances, yet not a suspicion of overcrowding—no attempt has been made at unnecessary elaboration which carries the eye away from the appliances displayed. In short, the whole conception is simple, dignified, yet thoroughly up-to-date in every particular. Full advantage is taken of alcoves, illuminated by concealed lighting above, for the effective display of groups of appliances, while two "pylons," running lengthwise down the centre of the floor, provide an excellent means of showing cookers to good advantage without merely standing them back-to-back in the middle of the room. This treatment is made clear from the accompanying photographs.

Two "gadget tables" face the door, surmounted by attractive bracket lamps; these tables, like the cooker "pylons," conform to the general decoration scheme. In the far corner is a coke grate in appropriate setting. All gas supplies are either completely concealed or brought up through floor cocks immediately adjacent to the point of use.

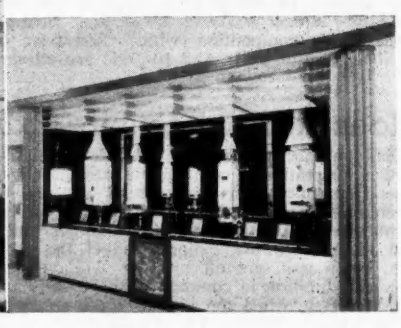
Particularly noteworthy is the water heating display—not so much by reason of any striking originality in the general conception, but rather as a result of the treatment of detail. As is now fairly common practice, the various types of water heater are displayed in a suitable recess, illuminated from above, and discharging into a common stainless steel drainage trough. The back panelling, however, introduces the note of originality, consisting of asbestos sheets faced with a patent streaked "Lacotile" finish which gives the appearance of black marble and shows off the white enamel appliances to excellent effect. Into the front

Below is the corner of the main showroom which is set aside for personal interviews.





On the left is the striking treatment of the staircase, while below is the water heating display.



panelling, below the trough, is an imitation "aquarium," a moving coloured light within revealing fish on ground-glass. This marine motif—so appropriate in a seaside town—is maintained elsewhere in the building, notably on the glass panels which surround the staircase.

A semi-circular alcove, with desk and chairs, is set aside for personal interviews, introducing a more informal note to the showroom. The main lighting is by distant-controlled ceiling ventilating lamps, while additional fittings around the walls match in design those attached to the "gadget tables." It is interesting to record that these fittings, together with the water heating display, the "gadget tables" themselves, the dsek, and the central cooker "pylons" were all specially designed by Mr. G. le B. Diamond, the Engineer and General Manager of the Company.

The basement showroom contains a comprehensive display of large-scale apparatus for hotel and general catering work, including auxiliary labour-saving equipment. The appliances are neatly set out for demonstration purposes, an example of a modern heavy-duty gas range, with ventilating hood above, being shown in the centre of the floor. There is also in this showroom an example of a fully equipped domestic kitchen, complete with cupboard fitments and gas appliances to harmonize with the scheme. The central heating load is covered by a modern all-enamelled gas boiler, while as a typical example of convenient hot water supply a coke boiler is shown coupled up with a gas circulator. This basement showroom is maintained at a comfortable temperature by an air-conditioning plant, which also serves other parts of the building.

The Demonstration Theatre.

Apart from some offices for the showroom staff, the greater part of the first floor is taken up by a fine demonstration theatre. Capable of seating some 150 persons, rows of nesting chairs are arranged in tiers stepping down to the demonstrator's platform. The latter is fully equipped with modern white kitchen fittings and built-in gas refrigerator, an instantaneous water heater being provided above the stainless steel sink. Above this again is a clock, while on either side are large meter dials on which the gas consumption of the demonstration cookers can be clearly read from the farthest corner of the room. The lower portions of the remaining walls of the demonstration area are faced with attractive green tiles. The theatre is warmed by radiators set in recesses in the walls behind pleasing chromium-plated grills. A door from the stage gives access to an adjoining service kitchen with a hatchway communicating direct with the theatre. This may be utilized by the demonstrators for personal consultations or for preparing afternoon tea for audiences.

The demonstration theatre being at the rear of the building, with a flat roof above, plenty of natural light is introduced through large laylights—one over the stage and another above the auditorium. Either for A.R.P. purposes or just to keep out too much sunlight, roller blinds can be drawn across these laylights by the operation of handles in the theatre. The artificial illumination is by concealed ceiling lighting.

The second floor, which occupies the front portion of the building only, contains further offices and cloakrooms, with access from the landing to the flat roof above the theatre and thence to the turret on which are a flagstaff and two gas flares, respectively marking the building by day and by night. A fire-escape from the roof connects with emergency exits on each floor.

There are numerous store-rooms and cupboards throughout the building, attractive design being everywhere combined with practical utility.

THE OPENING CEREMONY.

The opening ceremony was performed by His Worship the Mayor of Folkestone Alderman A. Castle, J.P., C.C.), who unlocked the main doors of the showrooms with a gold key. The guests were thereafter received by Sir David Milne-Watson, Bt., LL.D., D.L. (Chairman of the Folkestone Gas and Coke Company), who was supported by Mr. G. le B. Diamond (Engineer and General Manager of the Company), Mr. H. A. Probin (General Manager of the South-Eastern Gas Corporation), and other Senior Officers of the Folkestone Company.

Those present then repaired to the demonstration theatre, where on the platform, in addition to the Chairman and the Mayor, were the Mayoress, and the Mayor and Mayoress of Hythe (Councillor and Mrs. G. Sharp), while among those present were members of the Folkestone Town Council, Mr. H. James Yates (Chairman of Radiation, Ltd.), and other prominent local residents.

Sir DAVID MILNE-WATSON first thanked the Mayor for opening the showrooms and their other distinguished guests for their presence on that occasion. Alderman Castle, he said, had served on the Folkestone Council for seventeen years, and had been Mayor five times.

After reference to the many attractions of Folkestone and its environments and to the fact that it was one of the "Gateways to the Continent," Sir David observed that the town was well known to the Gas Industry, having been visited last year by The Institution of Gas Engineers, while the Association of Public Lighting Engineers also held their Annual Conference there. The Gas Company decided to build these new showrooms for several reasons—one of the most important being the expiration of the lease of the existing premises and the traffic density in that particular portion of Rendezvous Street. Suitable property for an adequate modern gas showroom was not easy to find in the Sandgate Road, and it had taken several years of patient research to find the right site. Having acquired the site, they decided to consult an Architect with local experience, and their choice fell on Mr. J. L. Seaton Dahl, who had many fine houses to his credit in Folkestone and elsewhere and was, of course, the designer of the Leas Cliff Hall. They had only to look round to see how successful he had been with their new showrooms, and they hoped and believed that this building would add to the amenities of the business centre of Folkestone and be considered an improvement to the Sandgate Road.

General View of the Main Showroom.

They felt that this new showroom should not only be modern—which, of course, provided the only possible setting for up-to-date gas appliances—but throughout its design it should link up with the requirements of a progressive seaside town such as Folkestone. Moreover, they had provided a really up-to-date display in the basement of modern hotel and boarding house equipment, which was the principal industry of that town. They not only showed the latest gas appliances for this purpose, but also auxiliary apparatus for labour-saving. The demonstration theatre in which they were sitting was for the use of the Home Service Section, which, under Miss Edwards' skilful guidance, was greatly appreciated by consumers. Miss Edwards was now provided with three of the latest labour-saving kitchens where, in addition to public demonstrations, private instruction would also be given to those who cared to make appointments.

Having selected their Architect, went on Sir David, and decided upon the design, they were resolved that this showroom should be built by a Folkestone builder and that it should be ready for opening by Aug. 5. Their choice could not have fallen upon a better man than Mr. Otto Marx, whose reputation for getting a job done was well known—and he had not failed them on that occasion. They were very pleased with the high standard of workmanship, and they extended to him and to the Chief Foreman, Mr. Houghton, their cordial thanks. As tangible evidence of their appreciation Sir David handed a cheque to Mr. Houghton and another to Mr. Marx for distribution among the workmen.

Sir David went on to say that the Local Hospital Committee had recently ordered gas equipment for the hospital kitchen, but in view of the restricted funds available they had decided to purchase equipment in all-black finish. It was, of course, preferable that the apparatus for hospital use should be mottled enamelled, with the metal parts chromium-plated, so that it would be easy to keep clean and give good service over a long period of years. They realized the difficulty, and to mark this occasion they were presenting the hospital with a donation of £62, which was to be specially earmarked for the gas equipment to be finished in the best possible way.

A Compliment to the Town Council.

His WORSHIP THE MAYOR OF FOLKESTONE thanked the Chairman and Directors of the Folkestone Company for asking him to perform this pleasing little duty, which he regarded as a compliment not only to himself, but to the members of the Town Council. Nothing gave them greater pleasure than to help those who were doing something for the benefit of the town. The Mayor went on to refer to historical details of the Folkestone

Gas Company, observing that they commenced to supply gas as far back as 1842, moving to their present site in Foord Road in 1866. In those days the maximum daily output of gas was 300,000 cu.ft., whereas to-day that figure had risen to 1,800,000 cu.ft. Since then, too, the works had been enlarged from time to time, and quite recently a new gasholder had been erected. Steady progress had always been made by this undertaking, which had given nearly a hundred years' service to the citizens of Folkestone.

Continuing, the Mayor said that the moment was opportune to emphasize the interest which Sir David Milne-Watson and Mr. Diamond had taken in the welfare of the town. They were always ready to give advice—and good advice—to those who had the good sense to consult them. Not only had great improvements been effected in the street lighting by gas, but the cordial relations between the staffs of the Gas Company and the Corporation had been enhanced by their willing co-operation. An example of that co-operation was demonstrated at the recent A.P.L.E. Conference, when the Gas and Electricity Undertakings worked hand-in-hand with the Corporation. Both Gas and Electricity Undertakings had contributed the sum of £250 towards the Jubilee Celebrations, while they had also done their bit in connexion with the Coronation Celebrations, including the flood-lighting by gas of the Kingsnorth Gardens. The Gas Undering spent annually some £30 000 in wages in Folkestone and Hythe, together with over £7,000 in rates.

In conclusion, the Mayor said he considered the Architect and Builder had put up a magnificent piece of work, and he was pleased to be there to offer the Chairman and Directors of the Folkestone Gas and Coke Company his cordial good wishes for the success of their new enterprise, which he had much pleasure in now declaring open.

Sir DAVID MILNE-WATSON briefly acknowledged the Mayor's kind remarks, while Alderman STAINER thanked the Gas Company for their gift on behalf of the Hospital Committee. Those present were thereafter entertained at tea in the basement showroom.

During the evening following the opening of the new premises, the Rt. Hon. Sir Philip Sassoon and Lord Berners paid a visit to the showroom and spent half-an-hour inspecting the appliances.

Public Lighting Progress

Gas Forges Ahead

For the following notes, which are indicative of the steady progress which is being made in gas street lighting, we are indebted to *Public Lighting*, the Official Organ of the A.P.L.E.

Burwash.—The Burwash Urban District Council have accepted the tender of the Tunbridge Wells Gas Company for street lighting on the Great Bounds Estate.

Cirencester.—The Cirencester U.D.C. has renewed its contract for the public lighting by gas of Cirencester and Stratton.

Coleraine.—Improvements are to be made in the lighting of Coleraine under a new contract between the Borough Council and Gas Department. At present 308 lamps are used to light the town, of which some 83 have three or more mantles.

Dunster.—This well-known Somerset beauty spot is to have gas lighting for the first time as a result of a new seven-year agreement under which gas will replace the existing installation. At the Parish Assembly which decided on the change-over it was stated that the demonstration gas lamp gave 100% better lighting than an existing unit; in spite of the large increase in lighting, the annual increased charge will only be £3 10s.

East Dean.—The East Dean Parish Council is to carry out improvements in street lighting under a renewal of its gas lighting contract for part of its area.

Fife.—A three-year agreement for gas lighting has been entered into by the Thorpe St. Andrews Parish Council; while the Fife County Council has agreed upon a five-year contract for the lighting of Lumphinnans, gas also being the illuminant chosen.

Hawick.—The Hawick Town Council has entered into a ten-year contract for gas street lighting on the Greenheads Estate.

Morecambe and Heysham.—About 1,204 gas lamps are involved in a renewal of its contract for gas lighting by the Morecambe and Heysham Borough Council. Various improvements in the lighting are specified in the new agreement.

Ramsgate.—The Ramsgate Council has replanned the lighting of Grange Road and Margate Road, two of the major entrances to the town, and the work has now been completed. In the former road the disused tramway standards have been utilized for suspending 6-light low-pressure gas lamps over the centre of the roadway from the trolley arms. Thirty-six lamps have been installed, each of which is fitted with automatic ignition. In Margate Road thirty lamps of a new design, each with No. 2 mantles, have been fitted. The new lighting has been greeted with much commendation locally both for its efficiency and for the appearance of the lamps.

Sunderland.—Some 938 lamps are affected by a recent contract specifying gas lighting entered into by the Sunderland Corporation. Improvements in the lighting are to be carried out.

Wellington.—The street lighting contract between the Wellington Urban District Council and the local gas undertaking has been renewed for a period of five years. This agreement covers 335 lamps and comprises the whole of the public lighting in the Council's area.

Improvements at Galston—

Late in 1937 efforts were made to retain the street lighting at Galston. Demonstration lamps were erected as follows: Four 12-light No. 2 "London" lamps with a mounting height of 25 ft.; four-light No. 2 Sugg "8000" lamps with a mounting height of 15 ft.; and four existing columns were re-spaced, mounting height increased to 13 ft. 9 in. and fitted with 3-light No. 1 burners in line.

It is now stated from the Caledonian Gas Corporation, of which the Galston Gas Company is a constituent undertaking, that the Galston Town Council has accepted all the demonstration lamps and ordered twelve more 12-light lamps and five more 3-light No. 2 lamps similar to those demonstrated.

Representatives from important gas undertakings and a number of deputations from county councils and burgh councils have inspected the lamps and expressed amazement at the good results obtained by the 12-light lamps.

—and Armadale.

A further success is reported at Armadale—also a constituent of the Caledonian Gas Corporation—where the Gas Company has recently obtained ten-year contracts for the lighting of Blackburn, Stoneyburn, and East Whitburn districts. The Armadale Gas Company has also obtained an order to light a housing scheme with 27 lamps having concrete columns and mounting height of 15 ft. to conform to the recommendations of the Ministry of Transport.

A Northern Main Road.

Northern municipalities are taking considerable interest in the new gas lighting on the main Barton Road, Davyhulme, which for a distance of 1,474 yards is now illuminated by 12-mantle gas lamps. The lamps are staggered on either side of the road at intervals of approximately 40 yards and are mounted on 23 ft. 9 in. columns with an overhang from the curb of 6 ft. 3 in. The installation has been carried out under a five-year contract between the Urmston U.D.C. and the Stretford and District Gas Board. The contract covers in all 1,269 gas lamps

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New Scale of Charges at Coventry

The City of Coventry Gas Department have brought into operation a new scale of charges to take effect as from the beginning of the present month. For quarterly consumers within the City of Coventry and Foleshill the new scale is as follows:

Cu.Ft.			Per 1,000 Cu.Ft. s. d.
Not exceeding	5,000	.. .. ..	4 2·88
From 5,000 to	10,000	.. .. ..	4 1·44
,, 10,000 ,,	25,000	.. .. ..	3 11·04
,, 25,000 ,,	100,000	.. .. ..	3 8·64
,, 100,000 ,,	500,000	.. .. ..	3 6·75
,, 500,000 ,,	1,000,000	.. .. ..	3 5·28
,, 1,000,000 ,,	1,500,000	.. .. ..	3 3·84
,, 1,500,000 ,,	2,250,000	.. .. ..	3 2·4
,, 2,250,000 ,,	3,000,000	.. .. ..	3 1·44

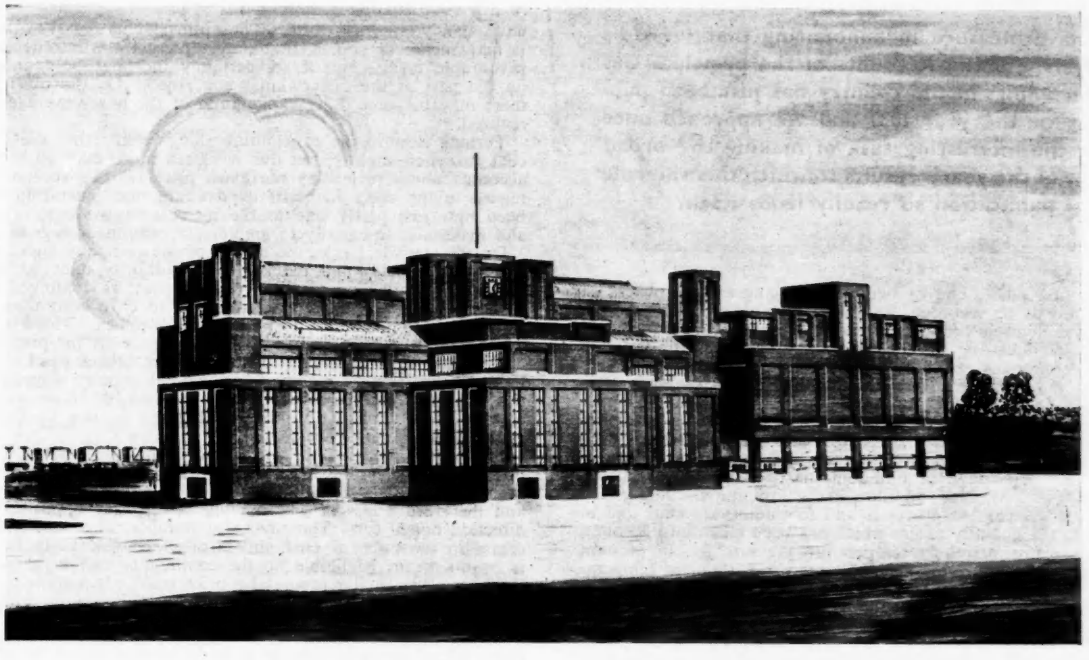
For monthly consumers the scale of charges is as follows:

Cu.Ft.			Per 1,000 Cu.Ft. s. d.
Not exceeding	166,700	.. ..	At quarterly rate
From 166,700 to	333,300	.. .. ..	3 4·32
,, 333,300 ,,	500,000	.. .. ..	3 2·88
,, 500,000 ,,	750,000	.. .. ..	3 1·44
,, 750,000 ,,	1,000,000	.. .. ..	3 0·48
,, 1,000,000 ,,	1,250,000	.. .. ..	2 11·52
,, 1,250,000 ,,	1,500,000	.. .. ..	2 10·56
,, 1,500,000 ,,	1,750,000	.. .. ..	2 9·6
,, 1,750,000 ,,	2,000,000	.. .. ..	2 8·16
,, 2,000,000 ,,	2,500,000	.. .. ..	2 6·72
,, 2,500,000 ,,	3,000,000	.. .. ..	2 5·28
,, 3,000,000 ,,	4,000,000	.. .. ..	2 3·84
,, 4,000,000 ,,	5,000,000	.. .. ..	2 2·4
And 5,000,000	and upwards	.. .. ..	2 0·96

An extra charge above the scales mentiond to Bedworth, Kenilworth, and outside the city, is 0/5·76d. per 1,000. The prices are subject to 5% discount for payment within twenty-one days.

The new charges for prepayment supply is as follows: Within the City of Coventry and Foleshill, 4s. 4·8d. per 1,000 cu.ft.; outside the City, 4s. 10·56d.; Bedworth and Kenilworth, where a cooker is provided, 5s. 8·64d.; without cooker, 5s. 5·76d.

Glover-West Carbonizing Plant for Blackpool's New Gas-Works at Marton



Contracts have now been placed for the plant to be installed on the new site at Marton, to which the Blackpool Gas Department has decided to move its works. The new site is provided with excellent railway communications, but it is in full view of the main arterial roads bringing visitors to Blackpool, and it was recognized to be a matter of considerable importance that the new retort house, as well as other buildings to be erected upon it, should present an appearance in keeping with modern ideas and in harmony with the more conspicuous of the existing buildings in the immediate neighbourhood.

The new retort house to be erected at Marton will be a decided addition to the architectural amenities of the district. It is designed with a central tower which houses the conveyors receiving coal from the railway and elevating both coal and coke to band conveyors supplying the coal bunkers above the retort bench and the coke-grading plant. Two subsidiary towers, one at each end of the main building, contain the lifts. The coke-storage bunkers with the housing over the coke-screening plant are to be erected in line with the retort-house building and in a similar style. The boilers and the electric generator house are accommodated in a building projecting from the base of the central tower, adding mass and dignity to this portion of the building.

The steel frames of the buildings are to be filled in and clothed with a good quality Accrington facing brick with string courses of white artificial stone expressing the upper lines of the building, while windows with generous lighting space in long vertical lines complete a design strong and homogeneous in character and in keeping with the purpose of the building and pleasing to the eye at a distance.

Interesting Features of the Plant.

The contract, which has been placed with West's Gas Improvement Company, constitutes a notable advance in the construction of carbonizing plant and includes many interesting and important new features. It comprises 72 Glover-West vertical retorts in two separate benches and very carefully arranged in suitable units for varying the quantity of plant in commission to deal with fluctuating loads. Coal is brought to the plant by rail, the wagons being unloaded by a side discharge wagon tippler with weigher and recorder into a receiving hopper from which it is fed to a breaker. Broken coal passes to a band conveyor which transports it to either of the duplicate lip-bucket conveyor-elevators in the centre of the retort house. These elevate it to shuttle band conveyors for feeding the bunkers of the two retort benches. Coke from the retorts is discharged by way of travelling chutes to band conveyors which bring it to the lip-bucket conveyor-elevator at the centre of the house by which it is elevated to a band conveyor leading to the coke plant at the end. The coal plant is to be capable of handling 75 tons of coal per hour and the coke plant 30 tons per hour. The coke screens selected are of the vibrating mesh type. They are arranged in two sections, each comprising a primary and secondary double-deck screen with interconnecting band conveyor. They will separate the coke into three sizes and eliminate the dust. The coke bunkers will have a capacity of 1,000 tons and the outlets will be provided with de-breezing screens and will be arranged to feed two lines of road vehicles and three bag-weighing machines.

Steam supplies are to be ensured by the provision of waste-heat boilers supplemented by coke-fired dry-back boilers. Superheated steam will be taken to the retorts for "steaming." Two electric lifts will be provided to give access to the several working platforms of the installation and the comfort of the operators will be further ensured by the provision of ample natural and mechanical ventilation. Instruments for the control of the working conditions of the settings and of the waste-heat boilers will be suitably mounted upon panels placed in convenient positions.

The installation will be rounded off by the provision of generous accommodation for the operating staff, including a shift foreman's office and lavatory and bathroom and workmen's changing rooms, lavatories, bathrooms, and messrooms.

Every detail of the scheme has been very carefully considered and it is confidently anticipated that this installation will be one of the most complete and economical in operation so far erected in this country.

"Field's Analysis"

We have pleasure in announcing that "Field's Analysis" of the Accounts of the principal Gas Undertakings in the country has just been published for the year 1937 and we approach once again the interesting task of making the broad survey of the year's results to which this valuable publication so readily lends itself.

In the first place, one or two minor changes, nevertheless of interest, are to be recorded. Additional statistics have been included in the edition for the year 1937. In past years the average sales for the ordinary consumers, the average sales for the prepayment consumers, and the averages of these together were shown as the average private consumer. Now the average sales are shown for all classes of ordinary consumers and wherever possible a division has been made for the average ordinary domestic sales only, also the average sales per prepayment consumer. The bulk sales are also set out and again wherever possible the percentage of non-domestic sales for the various undertakings. Another addition is a column indicating the quantity of gas sold to processes and to trading accounts and in some cases the quantity of gas which has been taken into account, representing a correction for temperature, pressure, &c., on account of the make of gas having been corrected to a standard temperature and pressure. Regarding this latter item, which to some may appear of little importance as the quantity here shown represents no value, we would draw attention to the considerable variation in the percentages even in the few cases where figures are given. This variation would indicate the employment of different methods by the several undertakings. Perhaps from the investigation now being made by a Committee of The Institution of Gas Engineers as to what constitutes "unaccounted-for" gas, there will emerge a simple formula to arrive at this quantity represented by this correction, and so offer some explanation of the difference between recorded sales of gas and the make of gas which has been corrected to a common standard temperature and pressure. The addition of such information is to be welcomed. It will be of assistance to those who wish to study closely the accounts of particular undertakings, while it may also encourage those undertakings which do not at present show these figures to come into line so as to present a more uniform statement of accounts. In mentioning this we hasten to add that we understand that in this year's issue of the Analysis all the items are worked out on the basis of the total gas sold to consumers, in bulk, and to processes, but excluding the quantity accounted for by the correction factor. This represents a change from previously when the quantity for correction was included in the divisor. It follows, therefore, that in all cases where an adjustment for correction is shown in the published accounts, the figures per therm sold will be proportionately larger because they are computed on a lower divisor. This may explain some apparent anomalies in the average price realized for gas by certain of the company undertakings, which appear to show higher prices realized although the flat rate had not at the time been increased .

Increased Revenue from Coke.

Turning now to the figures themselves, there is perhaps little to record of particular note, excepting the outstanding increase in the revenue derived from coke, which has yielded over 2s. 6d. more per ton in the case of both company and local authority undertakings. On the whole the movement of costs, however, even if not notable, has been upwards. This is to be regretted, although the reasons for it are obvious. The continual and gradual rise in costs comes almost to be taken for granted.

It must not, however, be forgotten that our real progress is dependent upon a progressive reduction in costs rather than an increase, and that this is the ideal that we have got to strive for by some means or other.

Taking first of all the income side, we find, as has already been stated, coke dominating. Gas measured by the average price realized per therm sold is a little irregular, and the figures need careful attention before use because of their great importance. On the whole of the company figures appear to be slightly up, but in many cases this is due, as mentioned above, to their being calculated on a lower divisor than last year; the figure also benefits in some cases by a smaller deduction for "Public lamp charges." Among the local authority undertakings, on the other hand, not only is the total figure slightly down, but there are also somewhat striking reductions for particular undertakings, although flat rates have, if anything, increased. These movements deserve attention. It may mean, of course, that they represent the introduction of favourable tariffs, and if so, certainly indicates bold enterprise on the part of the undertakings concerned. On the other hand, there may be some other explanation of the lower average prices realized.

Turning now to the expenditure side, we find that the cost of coal has risen slightly, but this has been more than offset in the accounts under review by the extra price realized for coke. In regard to the other items of expenditure, the general trend has been upwards, partly due to the increase in the cost of wages and materials, and partly to greater elaboration of organization.

On the statistical side, the output of the company undertakings was up by 1·68% and that of local authority undertakings by 1·03%. The number of prepayment consumers continued to increase on a large scale, and there seems to have been a tendency to transfer from ordinary to prepayment supplies. There is, however, noted a further decline in the average sales for prepayment consumers. It is gratifying to note the strength of gas for public lighting, the increase recorded in the total quantity supplied and the average consumption per lamp is presumably to be attributed to the official policy of improved lighting as one of the safeguards against street accidents.

For some time past the most enterprising elements in the Industry have been pressing forward with promotional tariffs and such-like, and it is certainly something of a set-back to find costs, and therefore prices of gas, moving in the very opposite to the direction hoped for. The effect, for instance, of a substantial increase in the price of coal, unless offset providentially by coke, is by no means negligible on the commodity rate of a two-part tariff, or other similar progressive price scale. It is quite different from the effect produced on the initial, or flat rate, on which the percentage of increase might appear quite small. The fact is the Gas Industry will have to look for additional business in those fields where it comes into direct competition with solid fuel. On price such competition is, of course, very severe, and it has not been easy for the Industry as a whole to enter largely into the market at these low prices, while on the other hand, it has been a herculean task to persuade prospective consumers to pay the "little bit extra" for the special advantages of gas. Now that it appears that these rates will have to be increased on account of the cost of coal, this task is going to become still more difficult. One thing, however, is certain, that this must not allow us to abandon the pioneer work that has been done in promoting the use of cheap gas. In the meantime watch must be kept on overhead expenditure to see whether it is not possible to reverse the direction of movement, so that we get reduced instead of increased cost per therm with rise in output.

Our congratulations go once again to the Editors, Mr. S. H. Collins and Mr. P. F. Scarth, and their staff of assistants, on the completion of another year's issue, actually the sixty-ninth. To our readers our advice is "Those who read may see the signs."

The Analysis is now on sale, and can be obtained from the Publishers, Messrs. Eden Fisher & Co., Ltd., 6-8, Clements Lane, London, E.C. 4, price £2 2s.

Gas Undertakings' Results

Hawick.

At the Annual Meeting of shareholders of the Hawick Gas Company it was reported that there was an increase in the sales of gas amounting to nearly a million and a half cu.ft. The profit for the year amounted to £3,617, while there was a balance brought forward from last year of £4,044. The Directors recommended a dividend of 5% free of tax, with £1,000 to be set aside for renewal of plant, leaving £4,312 to be carried forward.

Middleton.

The Borough of Middleton Gas Department for the year ended March 31 made a gross profit of £10,649, and a net profit of £1,208. The gross profit is equal to 4½% of the capital expenditure of the undertaking and the net profit is slightly more than ½% of such expenditure. The quantity of gas manufactured during the year was 225,875,000 cu.ft.—slightly more than in the previous year. Prepayment consumers took 45·42%; mills, workshops, &c., 9·12%; and engines, singeing, &c., 5·37%. A benzole extraction plant with static washer and storage tanks for benzole and naphtha was installed during the year, and is working very satisfactorily. A consumers' maintenance scheme, combined with a census of appliances on the district, has been inaugurated. This has proved quite satisfactory, the extra business obtained being more than sufficient to cover the cost of the scheme.

The Coke Market - - - - -

In this Contribution a Member of the Coke Oven Managers' Association, basing his comments on the three Articles entitled "Order or Chaos in the Coke Market" which appeared in the "JOURNAL" for June 1, 8, and 15, discusses the future of the coke market from the point of view of a coke oven manager.

Coke oven managers, and no doubt others, have recently had the pleasure of receiving from the "GAS JOURNAL" a reprint of some articles appearing in that paper in June last, and entitled "Order or Chaos in the Coke Market." It may be of interest to gas-works managers to know the views of a coke oven manager upon this subject. The coke oven managers may have collective views, but let us make no mistake about the fact that they are individually less than the dust beneath the colliery heel when it comes to questions of policy and business. There are exceptions, of course, but that is the general rule. The coke oven manager has hardly yet emerged from the chrysalis that he entered 40-odd years ago when he was just a surface foreman looking after a few bee-hive ovens. Many owners, probably most owners, do not realize that the coke oven manager of to-day is as highly trained as is the mine manager, or the manager of a large gas-works. So it is that he is bidden to keep his ovens turning out coke and by-products at minimum cost—though often he is not allowed to know what his costs are—and to eschew mixing in such high matters as salesmanship, prices, or business policy, upon which he is considered to have no right to express an opinion. Thus it comes about that when an individual coke oven manager such as the writer expresses an opinion, he must be understood as expressing his own views only, and in no way committing his employers.

There cannot be any doubt that the facts are broadly as they are set forth in the "JOURNAL" articles. These articles admirably summarize points of view that have been expressed in Papers read before technical societies during the past year. Reference may be made in particular to that by Bradley and Foxwell before the Institute of Fuel, and Boon and Foxwell before the Coke Oven Managers' Association. These ideas were fully discussed upon those two occasions and no serious objection was raised against them. In his earlier Presidential Address to the Coke Oven Managers' Association last October, Bradley expressed much the same views, though not taking them so far. These, however, are the technical men of the industry and perhaps it is fair to say that they are more far-sighted than the commercial men, because the commercial men have only their own limited experience to guide them, whereas the technical men are accustomed to keep their eyes open to profit by the experience of others. Commercial men in the coal trade are not very different from the prehistoric man who conversed only by signs; technical men in any industry are more akin to the civilized man after the introduction of printing in that the spread of new ideas is more rapid. If only for this reason it is well to note that the present undoubted movement towards marketing schemes among coke oven owners was initiated by the technical men in conjunction with a few of the more far-sighted directors of colliery companies. From what has been said it will be evident that only a few of the coke oven managers were in a position to influence affairs, but the leavening influence of these few was very great. The great mass of colliery salesmen who are to-day responsible for selling coke have had no part in the movement and are to a great extent distrustful of it. It may be on that account that the movement is not making the progress that one would like to see.

Perversion of the Commercial Mind.

Another important factor is to be found in that curious perversion of the commercial mind which believes that the acme of successful buying is to beat the seller down to the lowest price, and that the pinnacle of salesmanship is to get the maximum price for the article sold. The gas industry appears to work on the reverse principle, and to judge from the Gas Press the greatest single subject of discussion is how to reduce the price of gas in order to sell more. The gas industry, moreover, believes that a small satisfied consumer is worth more than a large dissatisfied one, and consequently appears to be imbued with the idea of "service." The commercial mind in many other industries has not these high ideals. It is true that 95% (in some industries) may operate on this high principle; but there seems always to be the residuum—sometimes small, sometimes considerable—that believes only in high prices when selling and low prices when buying. This is not without its important bearing upon this practical problem of coke marketing. In the sphere of benzole it happens that the great majority of people are prepared to fall in with the National Benzole Association's scheme and to receive a fair reward for their product while maintaining a satisfactory price. It also happens, however, that there is a good deal of competition among merchants for the small quantity of benzole that remains outside the Association. The result is that for this small quantity a higher price is secured than for the bulk. The few who pursue their own selfish aims do very well but reck not of the consequences if everyone pursued the same policy. The same practices are evident in any body that is formed for co-operative marketing. It may not be that those outside get higher prices, but by keeping their prices just a fraction below the standard figure they get more business. If everyone operated individually prices would fall to the bottom so that no profit would remain for anyone, but certain types of commercial mind do not respond to this argument so long as they themselves are making a temporary increased profit, or getting more than their share of business.

The same principle operated during the recent abnormal demand for furnace coke. Prices soared to such heights that producers were in clover, and not unnaturally few could resist the temptation to make hay while the sun shone, regardless of the fact that they had no barns to store it in when the rain came. Thus the gas coke market was denuded of supplies of oven coke when these were most needed, and markets were lost that should have been extended. Just how much harm has been done by the coke shortage of 1936-38 may never be known. Similarly, the few are trying to remain outside the new associations in the expectation that by so doing they may gain some advantage over the great majority who are satisfied with their fair share. This spirit in certain quarters is behind the difficulties that are being experienced.

The "JOURNAL" Report suggests that coke ovens are making for the domestic market—which the writer prefers to describe as the "general" or "gas coke" market—because they are forced to do so by reason of the erection of coking plant at steel works. That is partly true, but it is not all the truth. Many coking plants began in a small way to cater for this market, some for the home market and some for export, and came to see that this market was more stable than that for furnace coke and in general commanded at least equally good prices. It has always been an unsatisfactory feature of by-product coking that the activity of the industry depended upon the activity of the iron and steel industry, over which the coke ovens had no control. When coke ovens began to supply large quantities of gas to the gas industry, the position became insupportable, and many coking plants preferred to cast adrift their iron and steel connexions and to make for this new market. Those coke ovens for the most part possessed in their own collieries coals that were peculiarly suitable for the purpose. From this aspect the new tendency for iron and steel works to operate their own coke ovens situated at the furnaces is to be welcomed. If this movement is general, as indeed it is virtually to-day, there will be no fear that colliery-owned coke ovens will leave the general market without supplies as soon as furnace coke prices tend in the upward direction. For the same reason, the writer does not believe that a period of bad trade in the steel industry will necessarily be accompanied by the influx of great quantities of furnace coke into the gas coke market. It is more probable that the steel-works owned coke ovens will buy coal from outside and that they will be operated as an

integral part of the metallurgical process. The increasing use of coke oven gas for steel furnaces, reheating furnaces, and the like is a factor tending in the same direction, for the internal economy of the works will be disturbed if the steel-works coke ovens produce coke for the general coke market without being able to dispose of their gas.

It is true that the coke oven industry is facing a considerable surplus of production, and measures are being considered whereby production shall be shared in accordance with the state of the market. It is not easy to arrange an equitable method of doing this in view of the commitments of some plants to supply gas to the gas industry. For this reason the more advanced minds are looking to marketing schemes, such as that now in being operated by the London and Counties Coke Association, to extend the markets so that curtailment of production shall be unnecessary so long as works are prepared to store coke during the summer. It is recognized that the erection of new coking plants operating for the gas coke market must be restricted in some way yet to be determined in order that production may keep step with demand.

Governmental Control.

The necessity for making production equal to the demand and the tendency for certain producers to remain outside schemes—a tendency that can only be detrimental to the interests of the industry as a whole—makes the idea of Governmental control less distasteful to some than appears to the writer of the "JOURNAL" Report. When all is said, the gas industry is pretty closely controlled by the Board of Trade and it cannot be said that the results are deleterious to the well-being of the industry judging from the results achieved within recent years. The writer for one would welcome a compulsory scheme if based on sound lines having as its foundation freedom for the technical man to produce the very best material he can by the best methods and selling by modern methods of marketing as laid down in the Boon-Foxwell Paper to which reference has been made.

The idea of technical methods leads to some consideration of the quality of the coke that is to be produced in the by-product coke oven. There are many who do not believe that the by-product coke oven is the best plant for the manufacture of domestic and similar coke. The feeling is growing that slack coal is not the best material from which such coke should be produced because of the nature of the ash. A superior product can be made by other methods from non-coking coals and many think that coking coals should be reserved for industrial use. There are two or three low-temperature processes that can operate with costs similar to those of a coke oven and upon non-coking coals. Perhaps they have not yet been developed to their highest pitch, and further improvements can be effected. Those improvements will come. When they do a product will be made at the collieries that will be far superior to anything that the gas undertakings can produce in regard to combustibility and to the distribution of the ash. The by-product coke oven, however, will probably continue to be used for carbonizing coking coals, and especially for the high-volatile coking coals, such as those mined in Derbyshire and Nottinghamshire. These coals produce a coke that is as highly combustible as the best gas cokes. The coke oven is also probably particularly well suited for carbonizing blends, and in this direction of coal-blending the coke ovens are far in advance of the gas industry. Technically, in the production of coke, the coke oven industry believes that it can show a clean pair of heels to the gas industry!

Character of Coke and Marketing Schemes.

All this, however, could be discussed at great detail did space warrant it, but the purpose of this contribution is to discuss marketing, and reference will next be made to the effect upon marketing schemes of the character of the coke. This subject receives a passing mention in the "JOURNAL" Report where it is said that: "The consumer must be taught how to use it (*i.e.*, coke). He must learn to discriminate between one type of coke and another and to know the best coke for domestic use." The writer does not agree. The consumer is not the man who should know how to discriminate—that must be done for him. How?

This brings up a subject which to the best of the writer's knowledge has not been brought under discussion except by individual writers in the Technical Press—namely, the standardization of coke quality. Before this can be brought about there must evidently be a standard central testing authority. The difficulties are considerable, but we already have the Gas Referees, and Inspectors for food and other things. The coke-selling organization if placed upon a national footing could set up its own authority. It is not a simple matter to determine upon what grounds coke should be graded by analysis. Attempts have been made by the Midland Coke Research Association to suggest a similar grading for furnace coke but without obtaining any real measure of agreement from the industry. This may be because blast furnace people do not seem to have yet decided what qualities they desire in furnace coke, nor, in particular, what are the relative values of the several qualities that might be specified.

The matter is more simple for the gas coke market, and in particular because it is not suggested that every coke should be priced by analysis, but that cokes should be divided into groups for the convenience of the purchaser. What does a purchaser desire to know about the coke he buys? It is true that he wants the coke to be dry and reasonably free from ash; but it is suggested that neither ash nor water content would enter into the evaluation of the group into which a given coke falls. The coke association might well have its own methods of "persuading" producers to supply only coke that is reasonably dry and free from ash; in a quiet way the London and Counties Coke Association has done almost everything that is necessary within its own area in this direction. There need be no fear that oven cokes will be lacking in these respects.

(To be concluded.)

Head, Wrightson & Co., Ltd.

Record Profit and Turnover

The Forty-Eighth Annual General Meeting of Head, Wrightson & Co., Ltd., was held at the registered office of the Company, Teesdale Iron Works, Thornaby-on-Tees, on July 28—Sir Guy Wrightson, Bt., presiding.

In moving the adoption of the Directors' report and balance-sheet, the Chairman said: We have written down our fixed assets by no less than £58,000 this year, made up of the normal annual provision for depreciation, amounting to £20,000, together with the sum of £38,000 transferred from share premium account.

The remaining assets have been included on a conservative basis, and the increase in work in progress reflects the high level of turnover which we reached during the year.

Net current assets have been considerably increased, and in recommending a dividend of 7½% and bonus of 2½% on the increased capital and transferring £50,000 to reserves, your Directors have been influenced by their desire further to strengthen the liquid resources of the Company.

The amount carried forward has been increased by £4,805 to £12,225.

The volume of those classes of work which are our speciality has continued to increase through the year under review. The most noteworthy feature is that our profit is a record, and I think you will agree that the results fully justify our successful issue of fresh capital last year.

The percentage of munition work which the Government departments have asked us to undertake has only amounted to 7½% of our total output during the past year.

We are endeavouring to keep a due proportion between work for the home market and for the export market, but with regard to the export market, the main and increasing tendency is for the less industrially developed Dominions and foreign countries to make their own engineering goods. We have, however, been able to export to Belgium and France special plant for steel works, and our other specialities to Russia, Poland, Egypt, Iran, and Turkey. Our welded products have developed and expanded, and we are continually bringing out fresh applications and designs. Our alloy steels have been further developed in our research laboratory, and special heat-resisting and corrosion-resisting castings are being widely used in an increasing market.

We have completed the first year of our contributory staff pension and life assurance scheme, and, as you will see from the balance-sheet, we are starting a pension reserve. On behalf of the Directors, I wish to thank the staff and workmen for their continued loyalty and valued services during the past year.

Mr. R. Miles (Managing Director) seconded the adoption of the report and balance-sheet, which was carried unanimously, and a dividend of 7½%, plus a bonus of 2½% (both less income-tax), was declared on the ordinary shares.

International Engineering Congress, Glasgow

RECENT DEVELOPMENTS OF

From a Paper presented on Wednesday, June 22.

The Gas Industry in Canada

By
JOHN KEILLOR,
of Vancouver, B.C.

The Decline in Gas Sales in Canada.

Perhaps the most outstanding fact about the Gas Industry in Canada is that the combined sales of manufactured and natural gas in 1937 were less by over 3,000 million cu.ft. than in 1930, the decline in sales of manufactured gas being greater in proportion than the decline in sales of natural gas.

The Gas Industry in Canada is taking cognizance of its position following a period of recession—six consecutive years (1930-1936) of decline in gas output due to new and intensive forms of competition: low-priced fuel oil, diesel oil, electricity, and sawdust. The remarkable improvement in the design of appliances for using the various grades of oil, electricity, sawdust, &c., has enabled the new competition successfully to invade homes and industrial plants throughout the Dominion, making serious inroads into sales of domestic, commercial, and industrial gas. An amazing increase has taken place in recent years in the use of these cheap competitive fuels to the exclusion of gas.

Until 1930 manufactured and natural gas companies in Canada enjoyed years of uninterrupted growth which kept gas companies and gas engineering firms busy extending old works and building new ones, drilling gas wells in natural gas areas, and constructing high-pressure transmission pipe lines, &c. Unfortunately these activities came to a rather sudden stop in 1930. Gas sales began to decline and the need for new construction fell off. Only two new coal gas plants have been built in Canada since 1930, a chamber oven plant in Vancouver, B.C., and a continuous vertical retort plant in Guelph, Ontario.

In the natural gas fields, notably in Southern Alberta, drilling companies, however, have continued to drill natural gas and oil wells. A number of wells was drilled for naphtha recovery only, the natural gas after abstraction of the gasoline content from the wet gas being allowed to go to waste, a colossal loss to Canada.

All companies are finding it necessary to remodel and enlarge their sales departments, increase the effort to sell larger volumes of gas for industrial purposes, and develop aggressively the newest and what promises to become the largest branch of the business in Canada—namely, "space heating"—to make up for the losses in domestic and industrial sales. There is a vast undeveloped field for gas central heating in Canada, and it is here that sales departments in future will principally direct their efforts while not relaxing the effort to sell gas for domestic and industrial purposes.

It is interesting to note that while sales of both manufactured and natural gas in the United States declined in about the same ratio as they did in Canada between 1930-1933, combined losses in the United States have since been more than recovered, while sales in Canada of manufactured gas are still reduced by 9½% and of natural gas by 5% as compared with 1930. It is hoped that this unsatisfactory situation may soon be remedied in Canada. The quicker recovery in sales in the United States is probably the result of more energetic sales efforts to make good the losses in domestic sales, and to well organized efforts to sell more gas for industrial purposes and to develop aggressively the "space heating" business, the largest potential field for gas sales in both the United States and Canada.

Figures taken from returns of the American Gas Association illustrate the remarkable recovery and trend of the business in the United States.

It would seem that a revival in the engineering and constructional branch of the Canadian Gas Industry will have to wait until lost sales have been recovered in one way or another, though recovery would be accelerated in some cities by the construction of more efficient manufacturing units.

There never was a time in the history of the Industry in Canada when there was greater need for leadership in sales development—for new competitive rate schedules, for off-peak promotional rates, for new and cheaper methods of manufacturing the gas itself, and for impartial discrimination on the part of those directing the sales policy of combination gas and electric companies so that well-balanced returns on both investments may be a major consideration in promoting sales.

TABLE 1.—*Percentage Increase in Sales* (1,000 *Cu.Ft.*) *in* 1937 *Compared with* 1933.

—	House Heating.	Industrial.	Domestic.	Total.
	%	%	%	%
MANUFACTURED GAS— Change in output ..	+ 127·8	+ 65·2	− 12·8	+ 13·5
NATURAL GAS— Change in output ..	—	+ 73·0	+ 21·6*	+ 55·1

* Including house heating.

Gas Standards.

Canada has a "uniform" or minimum standard of 450 B.Th.U. governing the quality of manufactured gas sold throughout the Dominion, which has been in force since 1919:

> "The standard for the Calorific Power of manufactured gas supplied by the contractor at the prescribed testing place shall be 450 B.Th.U. per cu.ft. of saturated gas when burned in saturated air."
>
> "The only unit of measure for the sale of gas by meter shall be the cubic foot."

A study of the Canadian Gas Inspection Act, 1921, the British Gas Regulation Act, 1920, and subsequent Acts, and practice in the United States and Australia, reveals that whereas no change has been made in the Canadian regulations affecting quality of gas since 1919, in Great Britain, the United States, and Australia, more modern regulations gives the Gas Industry in these countries certain manufacturing and selling advantages over that of Canadian gas companies. Throughout Canada gas is still made to the same "uniform" standard regardless of the varying qualities of coal or oil available for gas and coke making, geographical location, vulnerability of companies to competition of foreign fuels, or manufacturing economies. A Committee of the Canadian Gas Association, realizing that Canadian regulations are now out-of-date, recently brought the matter to the attention of the Association and that body is now studying more recent British, American, and Australian regulations with a view to modernization of the regulations in this country.

As yet no gas companies in Canada sell gas on the basis of

the "therm" or other heat unit, and no companies make gas under the "declared" calorific value system. There are no companies manufacturing gas of lower calorific value than 460 B.Th.U., but the opinion is gaining favour that it would be well for the Industry and the gas consuming public if the "uniform" standard was abandoned in the Dominion as it was in Great Britain, and if the British system of requiring each gas company to "declare" the quality of gas it is best equipped to make and sell from available raw materials was adopted, the gas to be sold on the basis of the "therm" or other heat unit. The writer believes that the "declared" calorific value system constitutes the fairest and most scientific method for the operation of gas manufacture yet devised, and if adopted in Canada will give gas companies freedom to make the kind or composition of gas that will enable them in most districts to give consumers a better product than they get now—at the burner point a high flame temperature gas at a lower price. This should be the aim of every gas company in these days of keen competition among fuels. More attention is being given to constancy of specific gravity, combustion characteristics, flame temperature, the composition of gases, and so on. It is becoming recognized in Canada as elsewhere that calorific value alone is an indeterminate measure of the value of gas.

If the Industry in Canada would increase the efficiency of manufacture, reduce manufacturing costs, attain greater efficiency in the use of gas and make progress in the future, the writer believes that one of the first steps toward the accomplishment of these objectives should be the revision of the Canadian Gas Regulations. In the meantime present Government regulations prevent gas companies from adopting more efficient methods of manufacture and sale made possible in other countries by more flexible regulations.

It is proposed to give a brief account of several new and interesting engineering developments which have taken place in Canada in recent years.

Making Gas Electrically: Complete Gasification of Coal with Oxygen.

A recent Toronto experiment conducted by A. T. Stuart, Director of the Gas Department, Hydro-electric Power Commission of Ontario, shows how complete gasification of coal or coke, &c., can be accomplished in the generator designed by Mr. Stuart in collaboration with American engineers, using oxygen produced from water by electrolysis. The following description of the process is extracted from the Paper by Mr. Stuart:

For many years it has been realized that the solution of the problem of the economical and complete conversion of coal into gas will depend upon large supplies of cheap oxygen. In some locations and circumstances, air, not hot water, is the more logical source of cheap oxygen. One gallon of water weighing 10 lb. contains 8·88 lb. of oxygen and 1·11 lb. of hydrogen, and these two gases can be separated in the highest purity by utilizing surplus generator capacity at any central electric station. The principal source of hydrogen is water, whether steam is decomposed by coke or whether water is decomposed by electricity. The latter procedure has many advantages, and it is therefore logical to expect great expansion in the process of water electrolysis. Reference has been made to hydrogen in a substantially pure state. There has been no reference to the fact that all gas-works are in a sense hydrogen factories in that their product contains a large percentage of hydrogen, this hydrogen coming chiefly from water consumed in the form of steam. Gas-works, of course, also consume immense quantities of oxygen originating from air and steam.

When the manufacture of domestic gas is considered, it becomes apparent that air may not be the logical source for oxygen. If atmospheric oxygen is used a gas is produced which is abnormally high in carbon monoxide and of higher gravity than the gas now in city mains. If, however, water is used instead of air as the source of oxygen the balance is restored, and gas can be produced which is almost identical with the gas now in city mains.

The Hydro-electric Power Commission of Ontario may therefore claim to be among the first to demonstrate on a commercial scale how coal can be completely gasified by means of electricity for the manufacture of gas similar in composition, heat value, and gravity to that now being distributed in city mains (Table 3). In this work the Commission has had the co-operation of one of the leading gas engineering firms in America. The Hydro-electric Power Commission erected a plant, which can produce some 2,000 cu.ft. of oxygen and 4,000 cu.ft. of hydrogen per hour. A standard type of gas producer having stationary grates was installed for operation with oxygen and steam. The best apparatus available was incorporated to measure the input of oxygen, steam and fuel, temperatures, pressures, gas composition, &c. Some fifteen tests were made extending over periods of 6 to 15 hours after operating conditions were stabilized.

Tables 2 and 3 present typical results obtained from the gasification with oxygen and steam of (*a*) peat, (*b*) coke, (*c*) half coal and half coke, and (*d*) two-thirds coal and one-third coke. In order to use coal alone it would be necessary to install a mechanical producer fitted with a fuel agitator of the Chapman type. Although these facilities were not available, the Tables include, along with actual results, a rough estimate concerning the use of coal alone.

TABLE 2.—*Gas Made with Oxygen.*
[Not Including Electrolytic Hydrogen.]

Fuel.	Peat Alone.	Coke Alone.	Coal 50%. Coke 50%.	Coal 67%. Coke 33%.	Coal Alone. (Estimated.)
B.Th.U. of gas make ..	311	297·6	328·0	322·0	333·0
Specific gravity (approx.) ..	0·7	0·7	0·7	0·7	0·7
Pounds of fuel per 1,000 cu.ft. of gas made	47·3	23·6	26·5	26·5	26·5
Pounds of steam per 1,000 cu.ft. of gas made.. ..	16·7	17·2	15·5	15·5	16·0
Cu.ft. of oxygen per 1,000 cu.ft. of gas made.. ..	184·0	219·0	207·0	174·2	170·0
Cu.ft. of gas per lb. of fuel ..	21·2	42·4	39·4	37·8	37·8
Cold gas efficiency, % ..	89·0	95·0	91·8	88·0	90·0
Approximate analysis—	%	%	%	%	
Carbon dioxide	12·7	7·6	7·4	9·7	—
Illuminants	0·9	0·2	0·7	0·8	—
Oxygen	0·5	0·5	0·2	0·3	—
Hydrogen	35·2	31·0	32·8	36·6	—
Carbon monoxide.. ..	45·6	59·9	56·2	50·0	—
Methane	0·7	—	0·7	1·1	—
Ethane	1·6	—	1·2	1·0	—
Nitrogen	2·7	0·8	0·8	0·5	—
Total	100·0	100·0	100·0	100·0	—

TABLE 3.—*Gas Made with Oxygen.*
[Including Electrolytic Hydrogen.]

Fuel.	Peat Alone.	Coke Alone.	Coal 50%. Coke 50%.	Coal 67%. Coke 33%.	Coal Alone. (Estimated.)
B.Th.U. of gas make ..	316	307	326	322	330
Specific gravity (approx.) ..	0·55	0·53	0·53	0·53	0·53
Pounds of fuel per 1,000 cu.ft. of gas made	34·6	16·2	17·9	19·7	19·0
Pounds of steam per 1,000 cu.ft. of gas made.. ..	12·2	12·0	11·3	11·5	11·9
Cu.ft. of oxygen per 1,000 cu.ft. of gas made.. ..	134·0	153·0	146·0	129·0	126·9
Cu.ft. of hydrogen per 1,000 cu.ft. of gas made.. ..	268·0	306·0	292·0	258·0	253·8
Cu.ft. of gas per lb. of fuel ..	28·9	61·8	55·8	50·8	52·6
Approximate analysis—	%	%	%	%	
Carbon dioxide	9·3	5·3	5·2	7·2	—
Illuminants	0·7	0·2	0·5	0·6	—
Oxygen	0·4	0·3	0·1	0·2	—
Hydrogen	52·7	52·1	52·5	53·0	—
Carbon monoxide.. ..	33·4	41·7	39·8	37·1	—
Methane	0·5	—	0·5	0·8	—
Ethane	1·2	—	0·8	0·7	—
Nitrogen	1·8	0·4	0·6	0·4	—
Total	100·0	100·0	100·0	100·0	—

Although it is a simple matter to carburet these gases to present standards, and although costs would still be less than with competitive methods, the lowest possible costs would be reached if gas of a calorific value of 333 B.Th.U. could be sold on a therm basis. Lowest costs for materials per therm of gas would be reached if neither enrichment nor the incorporation of electrolytic hydrogen was necessary. It has been pointed out that hydrogen has wide and rapidly expanding applications in industry at values which may yield oxygen as a by-product. The type of gas made without hydrogen is shown in the right-hand column of Table 2. Cheap oxygen is capable of effecting a complete revolution in gas manufacture for both industrial and domestic purposes. British authorities have recognized the fact that oxygen derived from

air by liquefaction would produce a gas abnormally high in carbon monoxide, and they therefore propose to subject the gas made with oxygen to a process of catalysis, so as to yield gas containing much less carbon monoxide and a considerable quantity of methane, the final product not being greatly dissimilar from coal gas.

The Paper shows how this complex secondary processing can be circumvented and how complete gasification can be introduced immediately, even into small gas-works. This is accomplished by utilizing electrolytic hydrogen and oxygen (in place of atmospheric oxygen only) to produce gas of normal carbon monoxide content and having the present standards of calorific value, specific gravity, and composition without any complex secondary processing.

The Three-Stage or "Triple" Process of Manufacturing Coal Gas, Blue Gas, and Carburetted Water Gas Simultaneously.

There has recently been developed in the gas-works of the British Columbia Electric Power and Gas Company, Vancouver, B.C., a process for the manufacture in intermittent chamber ovens of coal gas, blue gas, and carburetted water gas simultaneously. This process has certain economic advantages compared with the manufacture of coal gas and blue gas in intermittent chambers or continuous vertical retorts, and carburetted water gas in a separate water gas plant. The three-stage process makes possible the control of coke production, reduces the cost of making mixed gases, and increases the gas production capacity of the ovens in Vancouver by 25%. The process is described in a Paper read by Mr. J. Kirkhope, Vancouver, B.C., before the Canadian Gas Association in July, 1936. The following account is extracted from the Paper:

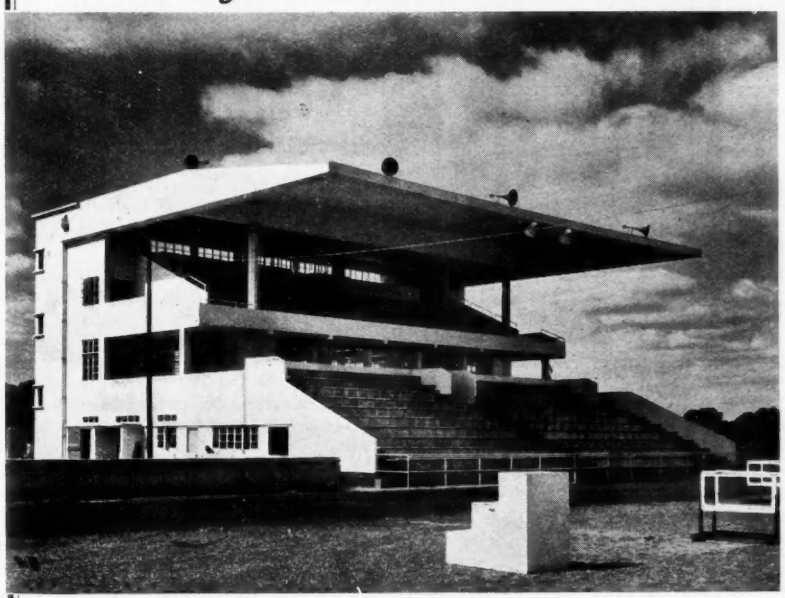
In the ordinary two-stage process of making gas by the carbonization of coal in intermittent ovens, it is well-known practice to admit steam to the bottom of the ovens when the carbonizing period is complete, this practice serving the purpose of utilizing some of the coke for making blue gas and thus increasing the total make of gas per ton of coal carbonized. At the completion of coal gas and blue gas manufacture in the ovens—*i.e.*, at the end of the second stage—the resultant coke still contains a large amount of available sensible heat which, however, cannot be employed for further blue gas production without lowering the calorific value of the mixed gas.

If, however, mixed gas of the same calorific value is required, enrichment of the surplus blue gas is necessary. This enrichment was accomplished at Vancouver by the admission of liquid hydrocarbons to the ovens at the top simultaneously with the admission of steam at the bottom. The liquid hydrocarbons sprayed on top of the hot coke in the chambers at regulated temperatures causes cracking of the hydrocarbons to take place, with consequent formation of a permanent gas of high calorific value, which gas mixes with the water gas resulting from the prolonged reaction of the steam with the hot coke. The resultant mixture of water gas and cracked gas can, within certain limits, be made to any desired calorific value between that of either constituent, by adjustment of the proportions of steam and liquid hydrocarbon admitted to the chamber.

Each of the thirty-six ovens in Vancouver is equipped with two funnels and U-sealed delivery lines, and the oil discharges into the ovens through nipples in two of the three charging port lids. Either one or both can be used to suit the proportions of oil gas wanted in the mixture.

Oiling of the oven charges, or the third stage of the process, is commenced when carbonization and normal steaming are completed. Steaming of the charge is continued, the blue water gas sweeping the oil gases from the upper part of the oven. To assist gasification of the oil and "fixation" of the resultant mixture of oil and blue gases, the normal oven charge of 4 tons of coal is reduced to 3·5 tons when making the three gases simultaneously, thus exposing a greater area of heating surface to the mixed gases. The oiling period and the quantity of oil used (determined by the size of orifices

How Gas Serves a Modern Sports Pavilion



Gas is being used to an increasing extent for the provision of hot water for sports pavilions, where the service demanded is often of a somewhat special nature, and owing to its flexibility of action, it has proved itself easily the best fuel to cope with such situations.

At the new Grand Stand of the Regent Street Polytechnic at the Chiswick Stadium, "REX" and "EMPEROR" Automatic Gas Fired Heaters have been installed to supply the showers, hand basins, and a bathing pool, of which a descriptive leaflet will be sent on request.

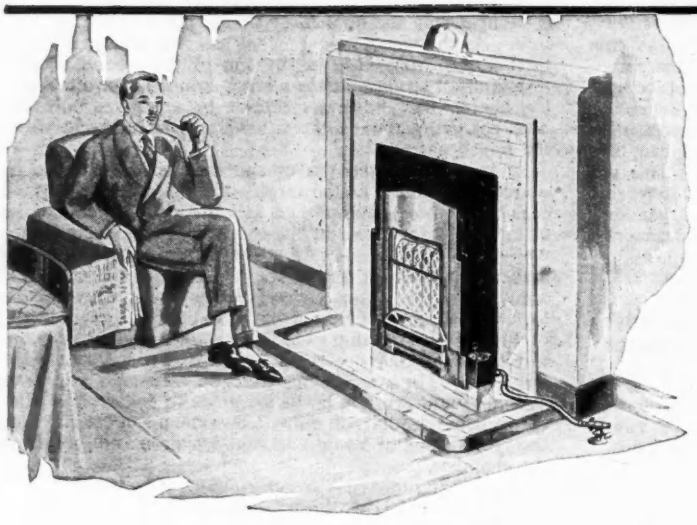
The Grand Stand of the Regent Street Polytechnic Stadium
(*Joseph Addison, F.R.I.B.A., Architect.*)

THOMAS POTTERTON (HEATING ENGINEERS) LTD.

'Phone: Balham 1244-5-6

Cavendish Works, Balham, London, S.W.12

'Grams: Potterton, Toot, London



EMPIRE EXHIBITION, GLASGOW
Stand 123/127, Palace of Engineering

Portable Prepayment Gas Heating for the Hotel Guest

☆

HERE IS THE NEATEST AND MOST COMPACT PORTABLE PREPAYMENT GAS-HEATING INSTALLATION YET DEVISED

☆

IT OPERATES BY MEANS OF ITS TIME-CLOCK AND A SIXPENNY-PIECE. The time set for the Sixpence can be varied between A QUARTER OF AN HOUR and FOUR HOURS, and any unused period may be CANCELLED.

☆

NOTE.—The TIME-CLOCK, which is British built and thoroughly reliable, can also be supplied as an independent unit, for use with "fixed" types of gas-fires, etc.

MAIN

Further particulars from

R. & A. MAIN LIMITED
LONDON and FALKIRK

AN ECONOMICAL INSTALLATION FOR HOTELS, BOARDING HOUSES, etc.

A few of these units will cover the heating requirements of many bedrooms. Easy to carry about—total weight, approximately 20 lbs.

GASCLOCK
PREPAYMENT *Gas-fire* INSTALLATION

Literature available for distribution and Showroom use.

in the delivery lines) are regulated to allow the oil to be turned off at least one hour before discharge of the coke. During this latter period steaming is continued to sweep out the last traces of the oil gas. The coal charging, oiling, and steaming periods adopted depend on the quantity of gas required from the plant together with the amount of coke required for the market. These periods can be changed at will in a few minutes.

In a modern gas producing plant of the intermittent oven type the triple process of making coal gas, water gas, and carburetted water gas can thus be carried on simultaneously, thereby controlling the coke output in a manner hitherto not attempted. The coke residue is still of good marketable quality.

Fig. 1 is compiled from average figures obtained in actual operation, and indicates the daily gas production from various throughputs of coal before and after the introduction of the triple process. For the results obtained without oiling —that is, making coal and blue gas only—the points lie fairly close to curve A. The results with the triple process when using 20 to 25 gallons of oil per ton of coal carbonized are plotted in fig. 1 and fall on, or close to, curve B (different curves are obtained for different oil consumptions). The effect of the oiling. or third stage in the process, can be readily seen. Let it be assumed that a daily production of 4½ million cu.ft. is required from the oven plant. Without the oiling process a throughput of approximately 240 tons of coal would be required, and the yield of coke would be approximately 165 tons per day. Using the triple process with 20 to 25 gallons of oil per ton of coal, approximately 170 tons of coal would be required; the yield of coke in this case would be roughly 115 tons—*i.e.*, a reduction of 50 tons in the coke production per day while making the same amount of gas.

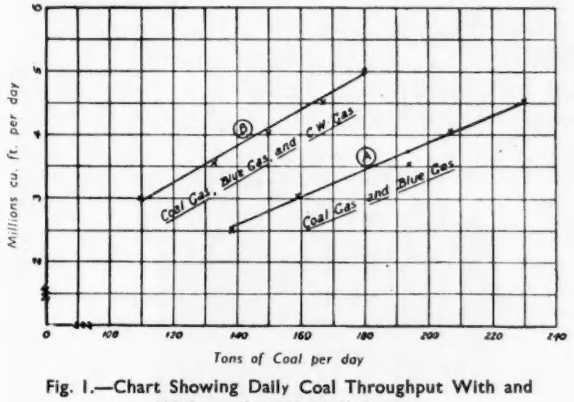


Fig. 1.—Chart Showing Daily Coal Throughput With and Without the "Triple" Process.

When using the triple process, the make of coal gas, blue gas, and carburetted water gas usually averages 25,000 cu.ft. (117·5 therms) per ton of coal and oil used, and on occasion over 30,000 cu.ft. (141 therms) has been produced. Thus the third step in the process, making carburetted water gas, increases the yield of gas per ton of coal and oil used, so that coke production can be controlled at will without utilizing the auxiliary water gas plant, except when the output exceeds the capacity of the chamber-oven plant.

Advantages of the Three Stage Gas-Making Process in Chamber Ovens.—The increased flexibility of this manufacturing process is such that a change can be made overnight from making straight coal gas to a mixture of gas of prescribed quality containing up to 40% or more of carburetted water gas, while still making a good saleable coke. In an emergency the chamber ovens can be filled with coke, and when it has been brought up to the desired temperature carburetted water gas can be made. In the event of a breakdown of the coal or coke handling plant under the old conditions, after a short while the quality of the gas made by the plant began to fall, but now the quality can be maintained by making carburetted water gas during the breakdown. A most important advantage is that it makes possible the control of coke production to a degree not yet possible in other types of coal gas plant.

By equipping chamber ovens for oil gas manufacture and by prolonging the steaming period, the manufacturing capacity of the plant in Vancouver has been increased by 25% while reducing the throughput of coal. The additional manufacturing capacity would save coke in some works where extra benches are kept under fire in anticipation of peak loads. The manufacturing capacity having been increased by 25%, the capital costs per million cu.ft. are proportionately reduced.

The carbonizing temperatures required by the triple process are approximately 100° C. lower than those required for making a coal and blue gas mixture only. This tends to prolong the life of the oven brickwork.

Certification and Approval of Appliances.

The Author is indebted to Mr. George Allen, Secretary of the Canadian Gas Association, Toronto, for the following information.

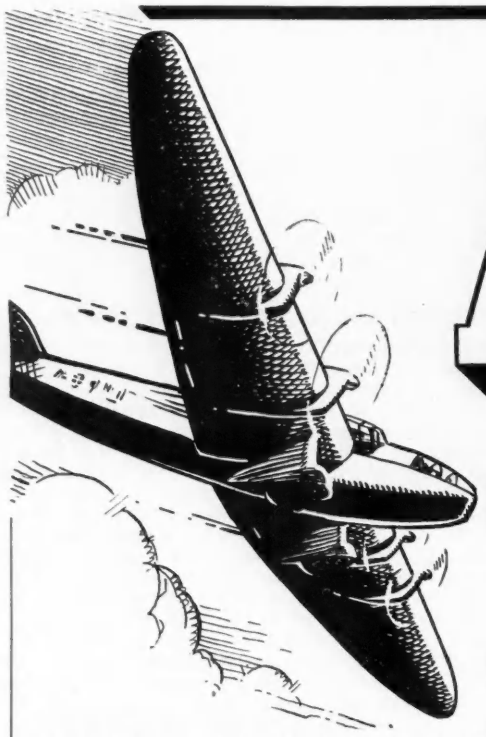
The Gas Industry in Canada has for twelve years been keenly interested in the certification and approval of gas burning appliances, so that users of gas service may be supplied with equipment that is at once safe, efficient, and durable. The Canadian Gas Association has taken keen interest in the activities of the Testing Laboratories of the American Gas Association, and has adopted the standards for the manufacture of gas appliances laid down by the Approval Requirements Committee of that organization. Most of the gas appliance manufacturers of Canada have fallen in line with this excellent movement, and are doing all they can to bring up the quality of their products to a standard that promises well for the Gas Industry in the country. The certification and approving of gas appliances, especially those for domestic service, have done much to increase the efficiency in use of both manufactured and natural gas and improve customer satisfaction.

The central testing laboratory, located at Cleveland, Ohio, and the branch located in Los Angeles, California, have tested and approved nearly 6,000 individual gas appliances made by manufacturers in Canada and the United States. In addition, about 23,000 other appliances have also been approved by visual inspection only, based on their similarity to those previously tested. A total of over 29,000 different models has thus been approved. Not all of these, of course, are available at the present time, as many models have been discontinued or replaced by other models. About 7,000 models are now shown in the current Laboratory Directory, and a number made by Canadian manufacturers, and a few American companies, are listed in the Canadian Gas Association's Directory every quarter-year. These models, it is estimated, account for about 95% of the sales of domestic gas burning appliances, which total approximately 2½ million units per year in the United States and Canada.

At the present time the laboratories are certifying equipment for nearly 300 manufacturers located throughout the United States and Canada. The value of the property and physical equipment of the laboratories amounts to about $250,000,000.

It is estimated that during the past twelve years a total of approximately seven million dollars has been expended by the Gas Industry in North America as a result of its appliance testing and certification programme. A comparatively small part of this sum represents the amount actually paid in test fees, the major portion having been expended directly by the manufacturers of equipment in remodelling and improving models in order to secure compliance with standards. The constantly increasing number of approved gas appliances now being sold each year constitutes the best evidence of the soundness of the scheme. It is now possible to procure gas appliances for use in home and general domestic service that compare in appearance, safety, efficiency, and durability with appliances made by competing utility companies.

The Seal of Approval of the Canadian or the American Gas Association shown on a gas appliance, appurtenance, device, or accessory is a guarantee to the public of compliance with basic national requirements for safety, and any such equipment that cannot meet these requirements is not fit to be used, and all practical means should be employed to prevent its sale and use.



A.R.P.

BRADDOCK'S

OIL SEALED

AUTOMATIC RELIEF VALVE

(PATENT APPLIED FOR)

SHOULD THE EXHAUSTER STOP OR A BLOCKAGE OCCUR IN THE WORKS MAIN, VALVE RELIEVES PRESSURE IMMEDIATELY AND SEALS AGAIN AUTOMATICALLY WHEN NORMAL CONDITIONS RETURN.
CAN BE SET TO "RELIEVE" AT ANY PRE-DETERMINED PRESSURE.

AUTOMATIC IN ACTION

ROBUST AND RELIABLE

PRICES AND PARTICULARS

APPLY TO **J. & J. BRADDOCK**
(BRANCH OF METERS, LTD.)
45/47, WESTMINSTER BRIDGE ROAD, LONDON, S.E.1
GLOBE METER WORKS, OLDHAM, AND
49/51, ABLOW STREET, WOLVERHAMPTON

Braddocks are Best

Markets and Manufactures

Current Sales of Gas Products

The London Market

Aug. 8.

Prices in the London Tar Products market are unchanged.

Pitch is nominal at about 33s. per ton f.o.b.

Creosote is about 4¾d.

Refined tar, 3¾d.

Pure toluole, 2s. 1d. to 2s. 2d.

Pure benzole, about 1s. 9d.

95/160 solvent naphtha, 1s. 7d.

90/160 pyridine, about 10s.

All per gallon naked at makers' works.

The Provinces

Aug. 9.

Crude Gas-Works Tar, 15s. to 20s.

To avoid misunderstanding, it is necessary to state that the above price is not claimed to represent a market value. It is a price worked out from week to week upon a system which has been used for many years as a basis for the fixing of certain contracts for crude tar of varying qualities in different areas.

The average prices of gas-works products during the week were: Pitch—East Coast, 31s. to 32s. f.o.b. West Coast—Manchester, Liverpool, Clyde, 31s. to 32s.* Toluole, naked, North, 1s. 7½d. to 1s. 9d. Coal tar, crude naphtha, in bulk, North, 7½d. to 8¼d. Solvent naphtha, naked, North, 1s. 4½d. to 1s. 5d. Heavy naphtha, North, 1s. 3d. to 1s. 3½d. Creosote, *ex* works, in bulk, North, liquid and salty, 4¾d. to 4⅞d.; low gravity, 4¼d. to 4½d. Carbolic acid, 60's, 1s. 9d. to 2s. Naphthalene, £13 10s. to £16. Salts, 80s. to 85s., bags included. Anthracene, "A" quality, 4½d. to 4¾d. per minimum 40% purely nominal; "B" quality unsalable. Heavy oil: Unfiltered heavy tar oil, min. gr. 1,080, 4¾d. to 4⅞d.; filtered heavy tar oil, min. gr. 1,080, 5¼d. to 5⅜d.; heavy tar oil, gr. less than 1.080, 4½d. to 4¾d.

* All prices for pitch are now quoted on the basis of f.o.b. In order to arrive at the f.a.s. value at any port it will be necessary to deduct the loading costs and the tolls whatever they may be.

Scotland

GLASGOW, *Aug.* 6.

There is still a dearth of orders but no material alteration has taken place in prices during the week.

Crude gas-works tar.—Actual value is about 37s. to 38s. per ton *ex* works in bulk.

Pitch.—Production exceeds demand and quotations are easy at round 25s. per ton f.o.b. for export and 23s. per ton *ex* works in bulk for home trade.

Refined tar.—Home market is consuming normal quantities at fixed prices of 3¾d. to 4d. per gallon, f.o.r. naked. Export business is not too brisk at 3d. to 3⅛d. per gallon in buyers' packages at makers' works.

Creosote oil.—There has been a fair turnover during the week and prices are as follows: Specification oil, 4¾d. to 5d. per gallon; low gravity, 5½d. to 6d. per gallon; neutral oil, 5d. to 5¼d. per gallon; all *ex* works in bulk.

Cresylic acid.—Business continues very slow and supplies can be secured as under: Pale, 97/99%, 1s. 6d. to 1s. 8d. per gallon; dark, 97/99%, 1s. 4d. to 1s. 6d. per gallon; and pale, 99/100%, 1s. 9d. to 2s. per gallon; all according to quality *ex* works in buyers' packages.

Crude naphtha continues to command 5½d. to 6d. per gallon *ex* works in bulk, according to quality.

Solvent naphtha.—90/160 grade is 1s. 4d. to 1s. 4½d. per gallon, and 90/190 heavy naphtha is 1s. 1d. to 1s. 1½d. per gallon.

Motor benzole is called 1s. 4d. to 1s. 4½d. per gallon.

Pyridine.—90/160 grade is 9s. to 9s. 6d. per gallon and 90/140 grade is 10s. to 10s. 6d. per gallon.

Benzole Prices

These are considered to be the market prices for benzole at the present time:

	s.	d.		s.	d.	
Crude benzole..	0	9½	to	0	10	per gall. at works
Motor „ ..	1	3	„	1	3½	„ „ „
90% „ ..	1	4	„	1	4½	„ „ „
Pure ..	1	8	„	1	8½	„ „ „

Contracts Advertised To-Day

Coal.

Keighley Gas Department. [p. 374.]
Teignmouth Gas Department. [p. 374.]

Conveyors.

Skipton Gas Department. [p. 374.]

Oxide of Iron.

Keighley Gas Department. [p. 374.]

Spent Oxide.

Keighley Gas Department. [p. 374.]

Stores.

Bradford Gas Department. [p. 374.]

Water Softening Plant.

Southport Gas Department. [p. 374.]

Overseas Opportunities

Gas Mains.

An agent established at Lisbon wishes to obtain the representation, on a commission basis, of United Kingdom manufacturers of gas mains for the whole of Portugal. (Applications for name and address to Department of Overseas Trade, 35, Old Queen Street, S.W. 1, Ref. No. 87.)

PROTECT WITH

METROTECT

a bituminous paint producing a pleasant satin black finish with highly waterproof and anti-corrosive properties.

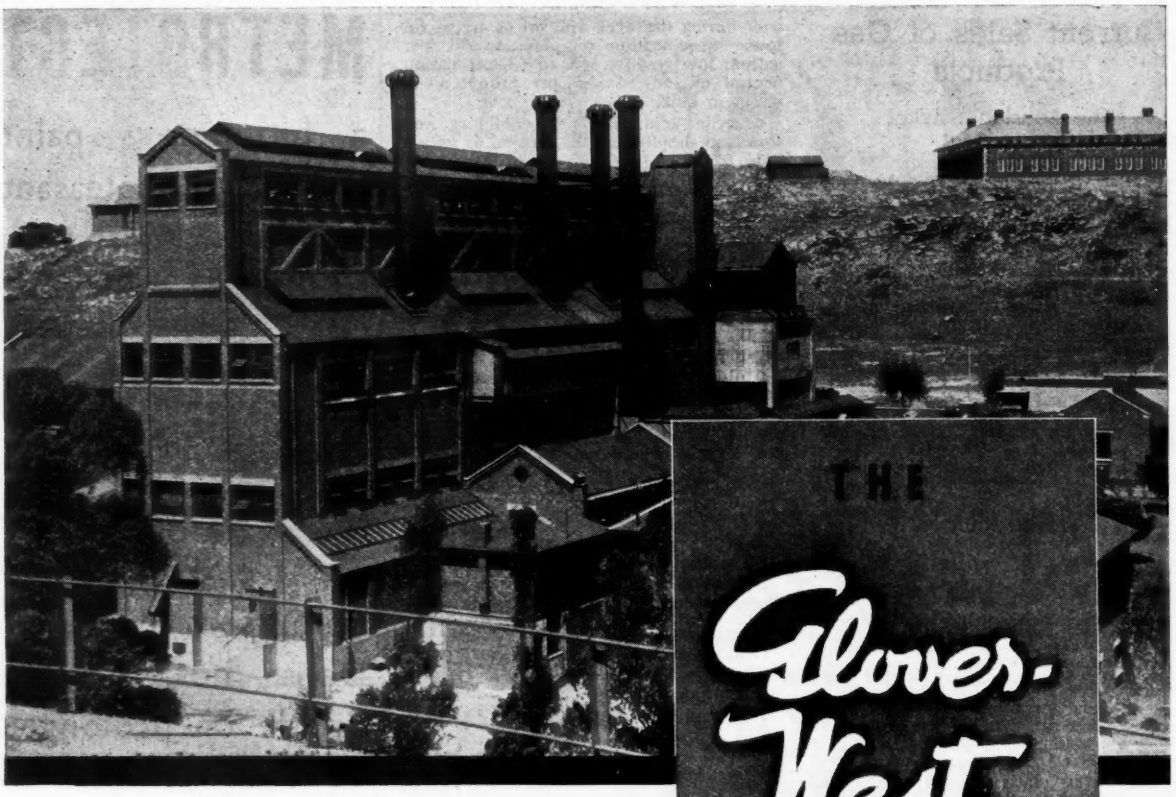
Protects steel-work which is continuously or periodically immersed in water. Does not become brittle on prolonged atmospheric exposure. METROTECT flows freely under the brush and can be applied quickly and without effort even in cold weather.

Prices and further particulars from—

SOUTH METROPOLITAN GAS CO.

PRODUCTS DEPARTMENT,
REGIS HOUSE,
KING WILLIAM STREET,
E.C.4.

● CARBONIZATION IN VERTICAL RETORTS



The modern Glover-West vertical retort plant has behind it the accumulated experience of 64 years constant research and development for the advancement of gas production methods the world over.

● *423 plants have been built or are on order for 223 Gas Undertakings in 24 countries.*

●

The picture shows the three installations of Glover-West vertical retorts at Johannesburg City Council's Cottesloe gas works. The carbonising unit of the complete modern gasworks ordered for Johannesburg from this company in 1926 has been trebled to meet the rapid growth of demand. The latest extension put to work in 1937 is nearest the camera.

●

WEST'S GAS IMPROVEMENT CO. LTD.,

MANCHESTER: Albion Ironworks, Miles Platting ■ LONDON: Columbia House, Aldwych, W.C.2

GAS STOCKS AND SHARES

Markets opened quietly after the holiday and remained so throughout the week. There is an underlying feeling of confidence, however, and, given some clearing up of the uncertainties over the international situation and the trend of affairs in America, the autumn should see a return to more active conditions. Gilt-edged stocks maintained a steady appearance, but Home railway stocks were again the most depressed section, with prices still falling. The bulk of the business went to the industrial market, where prices closed about the best of the week, a feature being the recovery in Courtaulds. The oil market was firm, with several issues making good improvement, but rubbers were almost completely idle.

Much the same conditions prevailed in the gas market—very little business, with prices unchanged. It is, in fact, a long time since quotations have remained so stationary, and as will be seen below in the Official List only two minor alterations were made last week. In the Supplementary List and at the Provincial Exchanges no movements at all were recorded.

At the time of writing there is a good choice available in the lists of gas ordinary and preference stocks and shares on offer, though very little debenture stock is on hand. Several useful lots appear in the preference list, and among these are the following: £5,000 Associated Gas and Water at £1 4s.% cumulative at 20s. free. These shares are redeemable in 1952 at 20s. 6d. and after allowing for this the yield works out at £4 1s.%; three months' dividend is payable on Nov. 30 next. A small parcel of Brighton and Hove 6% is on offer at 133, yielding £4 10s. 2d.%, the dividend on which is covered six times. Another good line is £1,100 Portsmouth 4% at 99, giving £4 1s.%, and the dividend in this case is covered twelve times. Among "ordinaries" a purchase of South Suburban at 120 yielding 5% should turn out a satisfactory permanent investment.

Official Quotations on the London Stock Exchange

Issue. £	When ex-Dividend.	Dividends. Prev. Hf. Yr. % p.a.	Dividends. Last Hf. Yr. % p.a.	NAME.	Quotations Aug. 5.	Rise or Fall on Week.
1,767,439	Mar. 7	8	8	Alliance & Dublin Ord. ...	145—155	...
374,000	June 20	4	4	Do. 4 p.c. Deb. ...	93—108	...
734,733	May 9	5	5	Asscd. Gas & Water U'd'ts Ord.	17/6—19/6	...
500,000	"	4½	4½	Do. 4½ p.c. Red. Cum. Pref.	19/—21/-	...
444,389	"	§–/4	4	Do. 4 p.c. Red. Cum. Pref.	19/—20/-	...
296,523	"	4	4	Do. 4 p.c. Irred. Cum. Pref.	16/—18/-	...
500,000	Mar. 7	3½	3½	Do. 3½ p.c. Red. Deb. ...	94—99	...
558,890	Feb. 21	7	7	Barnet Ord. 7 p.c.	158—163	...
300,000	Apl. 4	1/4½	1/9½	Bombay, Ltd.	24/6—26/6	...
179,915	Feb. 21	9½	9½	Bournemouth sliding scale ...	195—205	...
590,407	"	7	7	Do. 7 p.c. max. ...	157—162	...
493,960	"	6	6	Do. 6 p.c. Pref. ...	134—139	...
50,000	June 20	3	3	Do. 3 p.c. Deb. ...	78—83	...
262,025	"	4	4	Do. 4 p.c. Deb. ...	98—103	...
335,000	"	5	5	Do. 5 p.c. Deb. ...	115—120	...
357,900	Feb. 21	7½	7½	Brighton, &c., 6 p.c. Con. ...	145—150	...
649,955	"	6½	6½	Do. 5 p.c. Con. ...	128—133	...
205,500	"	6	6	Do. 6 p.c. 'B' Pref. ...	127—132	...
855,000	Mar. 7	7	8	British Ord.	138—143	...
100,000	June 3	7	7	Do. 7 p.c. Pref	140—145	...
350,000	"	5½	5½	Do. 5½ p.c. 'B' Cum. Pref.	110—115	...
120,000	"	4	4	Do. 4 p.c. Red. Deb. ...	94—99	...
450,000	"	5	5	Do. 5 p.c. Red. Deb. ...	102—107	...
450,000	"	3½	3½	Do. 3½ p.c. Red. Deb. ...	94—99	...
100,000	22 May'33	6	4	Cape Town, Ltd.	1—2	...
100,000	6 Nov.'33	4½	4½	Do. 4½ p.c. Pref. ...	1⅛—3⅛	...
150,000	June 20	4½	4½	Do. 4½ p.c. Deb. ...	60—70	...
626,860	July 18	6	6	Cardiff Con. Ord.	118—123*	...
237,860	June 3	5	5	Do. 5 p.c. Red. Deb.	105—110	...
98,936	Mar. 21	2/-	2/-	Colombo Ord....	1⅞—1⅞	...
24,510	"	1/4½	1/4½	Do. 7 p.c. Pref.... ...	23/—25/-	...
739,453	Mar. 21	–/11·48	–/11·48	Colonial Gas Assn. Ltd. Ord.	16/6—18/6	...
296,144	"	1/3·30	1/3·30	Do. 8 p.c. Pref. ...	23/—25/-	...
1,775,005	Feb. 7	5	5	Commercial Ord.	81—86	...
140,000	—	—	—	Do. 4 p.c. Red. Pref.	99—102	...
620,000	June 3	3	3	Do. 3 p.c. Deb. ...	72—77	...
286,344	Feb. 7	5	5	Do. 5 p.c. Deb. ...	114—119	...
200,000	—	—	—	Do. 3½ p.c. Red. Deb.	99—102	...
807,560	Feb. 21	7	7	Croydon sliding scale ...	137—142	...
644,590	"	5	5	Do. max. div. ...	107—112	...
620,385	June 20	5	5	Do. 5 p.c. Deb. ...	113—118	...
239,000	Feb. 7	5	5	East Hull Ord. 5 p.c.	96—101	...
185,355	Feb. 21	6	6	East Surrey Ord. 5 p.c. ...	118—123	...
176,211	June 3	5	5	Do. 5 p.c. Deb. ...	115—120	...
250,000	July 4	4	8	Gas Consolidation Ord. 'B' ...	20/—21/-	...
250,000	May 9	4	4	Do. 4 p.c. Red. Cum. Pref.	17/6—19/6	...
19,223,324	Feb. 7	5⅜	5½	Gas Light & Coke Ord. ...	24/—25/-a	...
2,600,000	"	3½	3½	Do. 3½ p.c. max. ...	80—83	...
4,477,106	"	4	4	Do. 4 p.c. Con. Pref. ...	101—104	+1
2,993,000	July 4	—	3½	Do. 3½ p.c. Red. Pref. ...	100—103	...
8,602,497	May 23	3	3	Do. 3 p.c. Con. Deb....	82—84	...
3,642,770	"	5	5	Do. 5 p.c. Red. Deb. ...	111—114	...
3,500,000	"	4½	4½	Do. 4½ p.c. Red. Deb. ...	109—112	...
700,000	Mar. 7	3¼	3¼	Do. 3¼ p.c. Red. Deb. ...	97¼—100¼	...
270,466	Feb. 21	6	6	Harrogate New Cons. ...	118—123	...
157,500	Mar. 21	1/2⅝	1/–‡	Hong Kong and China Ord. ...	⅜—1	...
213,200	Feb. 7	6	6	Hornsey Con. 3½ p.c. ...	100—110	...
5,600,000	May 9	8	12	Imperial Continental Cap ...	122—127	–1
223,130	July 18	3½	3½	Do. 3½ p.c. Red. Deb....	87—92*	...
285,242	Feb. 21	8½	8½	Lea Bridge 5 p.c. Ord. ...	167—172	...
11,751	Feb. 21	8	10	Maidstone 5 p.c. Cap. ...	175—185	...
63,480	June 20	3	3	Do. 3 p.c. Deb.... ...	70—75	...
75,000	May 23	†10	†10	Malta & Mediterranean ...	137—142	...
				Metropolitan (of Melbourne)		
392,000	Apl. 1	5½	5½	5½ p.c. Red. Deb.	99—102	...
231,977	Feb. 21	5	5	M.S. Utility 'C' Cons. ...	99—104	...
968,658	Feb. 21	4	4	Do. 4 p.c. Cons. Pref.	97—102	...
360,075	June 20	4	4	M.S. Utility 4 p.c. Deb. ...	97—102	...
148,955	"	5	5	Do. 5 p.c. Deb. ...	113—118	...
675,000	May 9	†6	†6	Montevideo, Ltd.	73—78	...
250,000	Mar. 7	7⅛	7⅛	North Middlesex 6 p.c. Con.	145—150	...
396,160	Feb. 7	5	5	Northampton 5 p.c. max. ...	107—112	...
300,000	Apl. 25	†9	†7	Oriental, Ltd.	147—152	...
468,537	June 3	8	8	Plymouth & Stonehouse 5 p.c.	150—155	...
621,667	Feb. 7	8¼	8¼	Portsmouth & Gosport Cons.	160—165	...
241,446	"	5	5	Do. 5 p.c. max. ...	102—107	...
73,350	"	5	5	Do. 5 p.c. Pref. ...	108—113	...
75,000	"	—	4	Do. 4 p.c. Pref. ...	95—100	...
114,000	Feb. 7	5	5	Preston 5 p.c. Pref.	106—109	...
247,966	June 3	4	4	Primitiva 4 p.c. Cons. Deb. ...	98—103	...
625,959	July 18	4	4	Do. 4 p.c. Red. Deb. ...	94—99*	...
15,000	Mar. 21	6	6	San Paulo 6 p.c. Cum. Pref. ...	8½—9½	...
441,275	Apl. 25	1/1½	1/1½	Severn Val. Gas Cor. Ld. Ord.	21/—23/-	...
460,810	Mar. 21	–/10⅛	–/10⅛	" " 4½ p.c. Cum. Pref.	19/6—21/6	...
133,201	Feb. 7	8½	5	Shrewsbury 5 p.c. Ord. ...	128—133	...
9,000	June 3	4	‡4	South African Ord.	4½—5½	...
1,371,752	Apl. 25	1/2⅞	1/2⅞	South East'n Gas Cn. Ld. Ord.	22/—24/-	...
871,636	Mar. 7	–/10⅛	–/10⅛	Do. 4½ p.c. Red. Cum. Pref.	20/6—22/6	...
498,818	"	4	4	Do. 4 p.c. Cum. Pref. ...	18/—20/-	...
450,000	Feb. 7	4	4	Do. 4 p.c. Deb.	100—103	...
150,000	"	3½	3½	Do. 3½ p.c. Red. Deb. ...	95—98	...
6,709,895	Feb. 7	5	6	South Met. Ord.	106—109	...
1,135,812	"	6	6	Do. 6 p.c. Irred. Pref. ...	130—135	...
850,000	"	4	4	Do. 4 p.c. Irred. Pref. ...	97—100	...
1,895,445	June 20	3	3	Do. 3 p.c. Deb.	77¼—80¼	...
1,000,000	July 4	5	5	Do. 5 p.c. Red. Deb. ...	109—112	...
600,000	"	—	§31/-	Do. 3½ p.c. Red. Deb. ...	99—102	...
1,543,795	Feb. 7	6	6	South Suburban Ord. 5 p.c. ...	118—123	...
512,825	"	5	5	Do. 5 p.c. Pref.... ...	110—115	...
500,000	"	4	4	Do. 4 p.c. Pref.... ...	95—100	...
250,000	"	§18/9	3½	Do. 3½ p.c. Red. Pref. ...	98—101	...
888,587	June 3	5	5	Do. 5 p.c. Deb.	115—120	...
250,000	"	4	4	Do. 4 p.c. Deb.... ...	96—101	...
200,000	Mar. 1	3½	3½	Do. 3½ p.c. Red. Deb. ...	94—99	...
427,859	Apl. 25	1/2¢	9½	S. Western Gas & Water Ord.	16/6—18/6	...
160,523	"	–/10⅛	–/10⅛	Do. 4½ p.c. Red. Cum. Pf.	19/—21/-	...
110,000	June 3	4	4	Do. 4 p.c. Red. Deb. ...	95—100	...
750,541	Feb. 7	5	5½	Southampton Ord. 5 p.c. ...	108—113	...
148,836	June 3	4	4	Do. 4 p.c. Deb.	95—100	...
350,000	Feb. 7	5½	5½	Swansea 5½ p.c. Red. Pref. ...	108—113	...
94,000	June 3	3½	3½	Do. 3½ p.c. Red. Deb. ...	95—100	...
1,076,490	Feb. 7	6½	6½	Tottenham and District Ord.	127—132	...
409,835	"	5½	5½	Do. 5½ p.c. Pref. ...	119—124	...
62,235	"	5	5	Do. 5 p.c. Pref. ...	110—115	...
371,850	June 3	4	4	Do. 4 p.c. Deb. ...	96—101	...
85,701	Apl. 25	6	6	Tuscan 6 p.c. Red. Deb. ...	95—101	...
888,629	Apl. 4	4	6	U. Kingdom Gas Cor. Ord. ...	18/6—20/6	...
937,743	May 9	4½	4½	Do. 4½ p.c. 1st Cum. Pref.	19/6—21/6	...
500,000	"	–/1·15	4	Do. 4 p.c. 1st Red. Cum. Pf.	19/—21/-	...
745,263	June 3	4½	4½	Do. 4½ p.c. 2nd Non-Cum.Pf.	16/—18/-	...
1,000,000	Mar. 7	3½	3½	Do. 3½ p.c. Red. Deb. ...	96—99	...
373,939	Feb. 7	7	7	Uxbridge, &c., 5 p.c.	133—138	...
133,010	"	5	5	Do. 5 p.c. Pref. ...	110—115	...
1,371,138	Feb. 7	7	7	Wandsworth Consolidated ...	137—142	...
2,525,768	"	4	4	Do. 4 p.c. Pref. ...	98—101	...
1,343,964	June 3	5	5	Do. 5 p.c. Deb. ...	115—120	...
383,745	"	4	4	Do. 4 p.c. Deb. ...	97—102	...
400,000	"	—	§25/-	Do. 3½ p.c. Red Deb.	97—102	...
558,342	Feb. 7	7	7	Watford and St. Albans Ord.	135—140	...
200,000	"	5	5	Do. 5 p.c. Pref. ...	110—115	...
200,000	"	5½	5½	Do. 5½ p.c. Pref. ...	120—125	...
200,000	June 3	4	4	Do. 4 p.c. Red. Deb.	96—101	...
100,000	"	3½	3½	Do. 3½ p.c. Red. Deb.	94—99	...

a.—The quotation is per £1 of stock. * Ex. div. † Paid free of income-tax. ‡ For year. § Actual.

Supplementary List and Provincial Exchanges overleaf.

STOCK AND SHARE LIST—Cont.

Supplementary List, not Officially Quoted, London

Issue. £	When ex-Dividend.	Dividends. Prev. Hf. Yr. % p.a.	Dividends. Last Hf. Yr. % p.a.	NAME.	Nominal Quotations Aug. 5.	Rise or Fall on Week.
202,152	Mar. 21	5	5	Ascot Ord.	103—108	...
128,182	July 18	5	5	Do. 5 p.c. Pref.	108—113*	...
31,035	Mar. 21	...	–/4½	Associated Utilities 4 p.c. Pref.	16/—18/–	...
100,000	Dec. 13	...	3½	Do. 3½ p.c. Red. Deb. ...	95—100	...
17,000	Feb. 21	8	8	Bognor Orig. Ord. 'A' ...	155—165	...
62,210	,,	8	8	Do. New Addl. 'A' ...	155—165	...
87,160	,,	7	7	Do. New 7 p.c. max. ...	150—160	...
37,440	Feb. 7	10	10	Cam. Univ. & Town 10 p.c. max.	190—200	...
125,970	,,	7	7	Do. 7 p.c. max.	135—140	...
39,025	,,	5	5	Do. 5 p.c. max.	97—102	...
96,410	July 18	4½	4½	Cardiff 4½ p.c. Pref.	95—100*	...
150,000	Feb. 21	4	4	Croydon 4 p.c. Pref.	98—101	...
130,000	June 20	4	4	Do. 4 p.c. Deb.	97—102	...
65,000	Mar. 7	7½	8½	Eastbourne 'A' 5 p.c. ...	140—150	...
198,000	,,	6	7	Do. 'B' 3½ p.c.	115—125	...
112,312	,,	5	5	Do. 5 p.c. Pref.	107—112	...
130,000	June 20	5	5	Do. 5 p.c. Deb.	112—117	...
24,000	Feb. 21	8½	8½	Great Yarmouth 8½ p.c. max.	43—48	...
59,400	,,	7½	7½	Do. 7½ p.c. max.	33—38	...
51,160	June 3	5½	5½	Do. 5½ p.c. Deb.	121—126	...
152,600	Feb. 21	8	9	Guildford Cons.	167—172	...
54,055	,,	5	5	Do. 5 p.c. Pref.	108—113	...
68,250	June 20	5	5	Do. 5 p.c. Deb.	107—112	...
156,600	Feb. 21	7½	7½	Hampton Court Cons. ...	138—143	...
80,000	Feb. 21	4	4	Lea Bridge 4 p.c. Pref. ...	94—99	...
60,000	,,	6	6	Do. 6 p.c. Pref.	123—128	...
94,876	June 3	4	4	Do. 4 p.c. Deb.	95—100	...
73,620	Mar. 7	8½	8½	Luton Cons. 'A'	155—165	...
107,960	Mar. 21	4	5½	Mid Kent Ord.	8½—9½	...
230,940	Feb. 7	10	10	Oxford & District Ord. ...	198—203	...
47,112	,,	5	5	Do. 5 p.c. Pref.	106—111	...
50,000	,,	6	6	Do. 6 p.c. Red. Pref. ...	108—113	...
126,193	May 9	7½	7½	Peterborough Ord.	135—145	...
64,990	Mar. 7	6½	7½	Redditch Ord.	120—130	...
166,850	Feb. 7	8	8	Romford Ord.	144—149	...
60,000	,,	4	4	Do. 4 p.c. Pref.	97—100	...
44,000	Mar. 21	5	5	Do. 5 p.c. Deb.	111—116	...
25,570	Feb. 7	5½	5½	Rugby 5½ p.c. Pref.	123—128	...
25,000	,,	6	6	Do. 6 p.c. Red. Pref. ...	105—110	...
42,750	June 3	5½	5½	Do. 5½ p.c. Deb.	118—123	...
110,950	Feb. 21	8	8	Ryde Ord.	140—150	...
270,086	Mar 21	7	7	Slough Ord.	128—133	...
21,000	June 20	5	5	Do. 5 p.c. Deb.	110—115	...
28,872	May 9	5½	5½	S. Midland Gas Cpn. Ltd. Ord.	19/—21/–	...
28,866	Mar. 7	4½	4½	Do. 4½ p.c. Red. Cum. Pref.	18/6—20/6	...
117,228	Feb. 7	5	7	Swindon Cons.	104—109	...
60,425	June 3	5	5	Do. 5 p.c. Deb.	112—117	...
64,380	June 3	5	5	Torquay & Paignton 5 p.c. Pref.	107—112	...
130,000	Feb. 7	5	8	Wakefield Ord.	118—123	...
81,650	,,	5	5	Do. 5 p.c. max.	101—106	...
82,000	Feb. 21	6	6	Weymouth Ord.	105—110	...
98,384	Feb. 7	6	6	Wolverhampton 6 p.c. Pref.	118—123	...
160,000	June 20	5½	5½	Do. 5½ p.c. Rd. Db.	105—110	...
90,000	June 20	5	5	York 5 p.c. Red. Deb. ...	104—109	...
133,640	July 18	6½	6½	Yorktown (Cam.) 5 p.c. Cons.	118—123*	...
120,000	,,	5	5	Do. 5 p.c. Pref.	105—110*	...
35,000	June 3	5½	5½	Do. 5½ p.c. Deb.	120—125	...

BRISTOL EXCHANGE

Issue. £	When ex-Dividend.	Dividends. Prev. Hf. Yr. % p.a.	Dividends. Last Hf. Yr. % p.a.	NAME.	Quotations Aug 5.	Rise or Fall on Week.
347,756	July 18	6	5	Bath Cons.	118—120*	...
1,667,250	July 18	5	5	Bristol, 5 p.c. max.	111—113*	...
120,420	June 3	4	4	Do. 1st 4 p.c. Deb. ...	101—103	...
217,870	,,	4	4	Do. 2nd 4 p.c. Deb. ...	101—103	...
328,790	,,	5	5	Do. 5 p.c. Deb.	119—122	...
274,000	Feb. 21	5	5	Newport (Mon). 5 p.c. max....	99—101	...
13,200	Mar. 21	7	8½	Pontyp'l Gas & W. 10 p.c. 'A'	13—14	...
13,600	,,	5	6	Do. 7 p.c. 'B'	12—12½	...
40,000	,,	5	6	Do. 7 p.c. 'C'	12—12½	...
140,778	Feb. 7	5	5	Weston-super-Mare Cons. ...	110—112	...
64,338	June 20	4	4	Do. 4 p.c. Deb.	95—100	...
33,340	,,	7½	7½	Do. 7½ p.c. Deb.	151—154	...

LIVERPOOL EXCHANGE

Issue. £	When ex-Dividend.	Dividends. Prev. Hf. Yr. % p.a.	Dividends. Last Hf. Yr. % p.a.	NAME.	Quotations Aug 5.	Rise or Fall on Week.
157,150	Feb. 7	5	6½	Chester 5 p.c. Ord.	109—112	...
92,500	June 20	4	4	Do. 4 p.c. Pref.	95—99	...
36,430	,,	3½	3½	Do. 3½ p.c. Deb.	87—90	...
41,890	,,	4	4	Do. 4 p.c. Red. Deb. ...	97—101	...
2,167,410	Feb. 21	6	6	Liverpool 5 p.c. Ord.... ...	124½—125½	...
245,500	June 20	5	5	Do. 5 p.c. Red. Pref. ...	97—102	...
306,083	July 18	4	4	Do. 4 p.c. Deb.... ...	100—102*	...
106,280	Feb. 7	10	10	Preston 'A' 10 p.c.	202—212	...
188,219	,,	7	7	Do. 'B' 7 p.c.	144—154	...

NEWCASTLE EXCHANGE

Issue. £	When ex-Dividend.	Dividends. Prev. Hf. Yr. % p.a.	Dividends. Last Hf. Yr. % p.a.	NAME.	Quotations Aug 5.	Rise or Fall on Week.
122,577	Feb. 21	8	8	Blyth 5 p.c. Ord.	163½—164½	...
732,000	Feb. 21	5	5	Hartlepool G. & W. Cn. & New	110—112	...
2,061,315	Feb. 7	5	5½	Newcastle & Gateshead Con.	23/3—23/9a	...
682,856	,,	4	4	Do. 4 p.c. Pref. ...	100½—101½	...
776,706	June 20	3½	3½	Do. 3½ p.c. Deb. ...	88½—89½	...
277,285	May 9	5	5	Do. 5 p.c. Deb. '43 ...	104—106	...
332,351	Feb. 7	6	6	Sunderland 6 p.c. max. ...	137—139	...

NOTTINGHAM EXCHANGE

Issue. £	When ex-Dividend.	Dividends. Prev. Hf. Yr. % p.a.	Dividends. Last Hf. Yr. % p.a.	NAME.	Quotations Aug 5.	Rise or Fall on Week.
542,270	Feb. 21	6	9	Derby Con.	135—140	...
55,000	June 3	4	4	Do. 4 p.c. Deb.	100—105	...
20,000	June 20	5	5	Long Eaton 5 p.c. Pref. ...	10—12	...
80,000	,,	5	5	Do. 5 p.c. Deb. ...	105—110	...

SHEFFIELD EXCHANGE

Issue. £	When ex-Dividend.	Dividends. Prev. Hf. Yr. % p.a.	Dividends. Last Hf. Yr. % p.a.	NAME.	Quotations Aug 5.	Rise or Fall on Week.
10,000	Feb. 21	10	10	Great Grimsby 'A' Ord. ...	205—215	...
6,500	,,	10	10	Do. 'B' Ord. ...	205—215	...
79,000	,,	10	10	Do. 'C' Ord. ...	195—205	...
1,806,339	Feb. 21	6½	6½	Sheffield Cons.	140—143	...
95,000	July 4	4	4	Do. 4 p.c. Deb.	101—103	...

a The quotation is per £1 of Stock. b Actual. * Ex div.

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